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BALTIMORE, OCTOBER 25, 1900.

In a letter to the Manufacturers' Record Mr. F. C. Dunn, secretary and treasurer of the Lenoir (N. C.) Oil & Ice Co., writes:

I can assure you of my very best wishes, and heartily endorse your efforts in the up-building of the South, and also your business-like manner in dealing with subjects which are incidentally affected by the political policies of our country.

In similar strain is a letter from A. W. McLean of Lumberton, N. C., who writes:

We do not hesitate to say that the Manufacturers' Record is doing more for the up-building of the South than any other agency known to us.

Galveston Not Defeated.

Full of the determined spirit which has made Galveston, the railroad and steamship interests at that port have rapidly advanced toward recovery from the disaster of September. The Galveston News says that the railroads entering there have succeeded in getting rid of all the damaged grain, and, in fact, of all the freight which they had at the time of the storm, and that although two of the elevators are out of service for the present, the third is able to take care of shipments promptly, as it has a capacity of 500,000 bushels greater than the total elevator capacity of the port three years ago. Of its seventy-five quay berths for steamers, the Galveston Wharf Co. has now sixty-five fully prepared for service, and within a few days all will have been restored, so that business is moving expeditiously. The storm has made no change in the plan of the Mallory Line for the improvement and the enlargement of its piers. These will be pushed, it is announced, and meanwhile the company has been going right ahead with its business, since rail communication was re-established on September 21. The question is now and then asked whether Galveston would ever be rebuilt. The activities of the transportation companies there give a decidedly affirmative answer. They have already too much invested at Galveston to do otherwise than they are doing. Even if this were not so, the position of Galveston as a point of commercial vantage is too important to be neglected in spite of such a visitation as the West Indian hurricane. Galveston's men are of stout heart. They will not acknowledge defeat, but

may be expected to draw such practical lessons from the storm that the effects of a second visitation of the kind, even if it should ever come, will be discounted.

Peace in China and Industry in the World.

The integrity of the Chinese Empire seems assured. The punishment of those responsible for recent tragedies seems certain. The world is going to work instead of going to war.

That the United States should take the lead in putting out a fire that threatened world-wide conflagration was due and proper. Holding our continental position between the Atlantic and Pacific, our country was, and is, more than any other nation, or than all nations combined, standing in a position to lose or gain most by whatever might delay or hasten the coming into the world of commerce of the 400,000,000 of people in China and by Russian offers for development in Siberia, a field infinitely larger than any ever heretofore thrown open to the world.

To state the case in a way of comparisons, the bringing into the world of the land and population of China and the land without population in Siberia, in all a country as big as North America, with a population equal to that of Europe and the United States, means a contract to employ the industrial power of the world, both men and machinery, of a volume to crowd the present productive capacity of all the industrial nations as greatly as the development of the United States in the past fifty years, and of European countries, has crowded the growing organized power of the world up to date.

The work which the twentieth century will demand will more than double the wealth of the world created in all the centuries of Christianity. The assessment books of a hundred years hence will double in their totals all that they show today.

In a word, with machinery once started, now that all nations have shown the controlling power of peace, every shift of men and every machine can be employed and every industry can run double-quick.

At the bottom of all this growth is, of course, iron and coal. Iron is put first because the machine must be made before it can be operated, and the operation employs many times the coal that the making of the machine calls for. To illustrate that fact, take this one item, that the railroads and steamships of the United States today consume nearly, if not quite, half our enormous output of bituminous coal, from 90,000,000 to 100,000,000 tons a year.

China is to be outfitted with iron from the ground up—railways, steamships, engines and machinery of all forms and sizes, and this work will be under full headway to tax the power of every furnace and rolling mill and machine shop in the world within the next four or five years.

Siberian Russia is to be outfitted with

railways and with machinery and structural iron from the ground up, and this work will proceed as rapidly as supply will permit.

A vast ocean-carrying power is to be created on the Pacific and on the Atlantic, and leading in this will be the maritime construction of the United States.

The work to be done by the United States is too vast easily to conceive. It will grow day by day on the student who gives his attention to it. It can only be stated now by saying that it promises to give employment to every available worker.

To the Southern States the meaning is of the highest importance. The South is the richest region of the world in natural resources, needing only development, population and capital. The imperative demand for these resources, coal, iron, timber, the products of the soil and the natural advantages coming from the river system and coast harbors of the Southern States will bring the population and capital, and the work of development is now getting fairly started. Blow the horn for work!

Cotton-Growing Competition.

Southern cotton-growers are given food for reflection in the announcement that the German government has contracted with Tuskegee Institute to furnish students to introduce cotton-raising among the natives in the German possessions in Africa. According to the report, a party of suitably-equipped students will sail from this country for Africa in November, and by some the expedition is regarded as the beginning of a formidable competition with America in the cotton-growing industry. Be that as it may, it is not unworthy of consideration. Should it be carried to any successful length, the formidableness of African competition with American cotton-growing would depend largely upon American cotton-growers. Events of the past eighteen months, viewed in the light of the history of fifty years of cotton-growing, are not sufficient to guarantee a maintenance of 10-cent cotton.

The high price which the South is temporarily enjoying is a result of a combination of circumstances largely accidental in character, and not to be expected as a regular thing. It offers no reason for a change in the policy long preached by the Manufacturers' Record, that the South must adapt itself to raising cotton as cheaply as possible if it hopes to retain its place of dominance as a cotton-grower. Pursuit of such a policy does not imply a loss to the grower. It means that methods must prevail whereby cotton may be profitably raised at a minimum of expense of time, labor and money; that the farmers must first of all assure themselves of a living from their own fields, and then devote their remaining energies to the cultivation of the staple. Here and there in the newer cotton territory the grower may be tempted to balance the possibilities of a bountiful

crop against the certainty of being obliged to go elsewhere for his food supplies. The temptation should be resisted, and both in the older fields and newer ones cotton as a surplus crop should be the rule. Such a rule, strictly followed, would relieve the planters from any cause for apprehension about experiments in cotton-growing in Africa, Asia, South America or anywhere else.

Skirmishing for Industrial Position.

An expression of the international industrial and commercial war now in full swing is given in protests of Austrian economists against continued exportations of timber from Austria to other European countries, particularly Germany. A number of industrial associations have recently addressed a memorial to the Austrian government on the subject, in which the position is assumed that the boundless exportation of raw timber from Austria threatens to become a great economic danger; that the advantage derived therefrom is illusive, bearing no relation to the damage which home industries and trades suffer in consequence thereof, and that it is necessary to take measures to prevent enormous exportations of timber. The claim is made that the forests of the Austrian empire feed German industries to the great detriment of home manufactures, as the German manufacturers are obtaining from Austria the large portion of the sinews of the industrial war, which, by a successful competition in foreign markets, they have been indirectly waging against the woodworkers of Austria. According to figures reported by United States Consul Frederick W. Hossfeld, the exports from Austria of sawed timber, woodenware, etc., have practically been stationary since 1891, while the quantity of crude timber exported has increased from 7,759,000 tons to 15,139,000 tons. The protestors suggest, as restrictive measures, an increase in freight rates on crude timber for export, taxation for State and provincial purposes of foreign timber merchants doing business in Austria, the enactment of stricter forestry laws, discrimination in favor of home industries in the sale of timber from government forests, or provisions in future tariff treaties tending to reduce the export of crude timber, or else imposition of an export duty on such timber.

Americans have comparatively little immediate interest, saving perhaps a thought of the possible effects upon the American lumber trade, of an attempt on the part of Austria to shut German manufacturers from its timber supplies. However, the demand of the Austrian economists must be regarded as one of the skirmishes in the great industrial warfare in which America has a deep concern. The Manufacturers' Record has dwelt upon the possibilities in the policy of one country's supplying the raw material for manufactured articles which the possessor

of the raw materials may make and market itself. That question is likely to come to the front more frequently as the competition of manufacturing countries becomes more tense. How it will be answered to the satisfaction and to the good of the greatest number may hardly be predicted. Many elements, minor and major, enter into it, and none more important, perhaps, as far as the United States are concerned, than the relation of exports of raw materials for industry and of exports of food for the workers. If we did not export enormous quantities of food-stuffs to England and Germany, for instance, we might afford to refuse to send either of those countries cotton and iron except in ultimate manufactured form. This refusal, though, might not be entirely free from danger for the United States, for England and Germany might be counted upon to devote their best energies to the development as quickly as possible of other sources of supply, both of industrial stuff and foods, by so much limiting the opportunities of agriculture and manufactures in the United States.

The mighty problem of adjusting the great industrial nations to their proper spheres for the benefit of all will be solved upon a basis of give and take. In this adjustment mistakes will be made, losses will be incurred and irritation more or less harsh will be suffered. It will not be accomplished until the whole globe has been brought under the influence of machine civilization.

Lessons from England.

An engineer of English birth and experience, who has spent twelve years in America in the employ of a firm manufacturing machine tools, recently made a visit to his native country and examined the plants of a number of engineering works. In a letter to *The Daily Mail* of London he summarizes his impressions and points clearly to the reasons why America is forging ahead of England in manufacturing. He says that in England the prevalent idea seems to be that a machine ceases to be efficient only when it is worn out, and that too little attention is given to the radical changes which have taken place in machines, even in the past five years. This is a manifestation of English deliberateness which *The Mail's* correspondent also finds in the inclination to dismiss the thought of improving a plant as long as there is an abundance of orders coming in. Compared with this sluggishness he points to the hustling character of America, where everything possible is gotten from a plant, and where the men throw themselves into their work. He says that the managers of some of the plants visited by him excused themselves on the ground that it is not their fault, but the fault of the workmen, who frown upon labor-saving machinery and object to run machines more rapidly, and he adds that English firms will have either to level up or else to yield the market to more capable competitors.

The unintentional yielding of the market as a result of the great engineering strike of a couple of years ago ought to have been a sufficient lesson, both to employers and employees of England. That it has not been taken more seriously to heart, according to *The Mail's* correspondent, is doubtless due to the deliberateness of which he complains. His letter, while of most interest to England, is valuable to America, in that it is a warning against

deterioration, or even standing still, on the part of American men and machines. England may not have become thoroughly aroused to the necessities of the occasion. But when her manufacturers do awaken they may be expected to bring to the solution of the problem of American competition all of the ability which, exerted in the past, made England an international manufacturer. Hence America cannot afford to close the eye to obvious possibilities. It must not be content to know that American methods and English methods may now be compared to the belittlement of the latter. It must do all within its power to continue in the lead.

Robert E. Lee.

An attempt made last week on the editorial page of the *New York Sun* to besmirch the fame of Robert E. Lee failed in its inception. Robert E. Lee's place in history is fixed. His greatness of mind and heart, his honesty of purpose and conduct, his loftiness in victory and defeat are qualities recognized as essential influences to the betterment of humanity. They are in higher esteem than his greatness as a warrior. For them his memory is held sacred and will endure even longer than the pure, noble memorial of him at Lexington, where he sleeps. Robert E. Lee needs no defence against assaults of vileness and malice. The author of the latest, aspiring to infamy, has condemned himself by unwitting delineation of his own character. He has shown himself incapable of comprehending that a man may refuse a bribe; that he may place principle above pelf, and that he may be willing to suffer material loss, and even to lay down his life, in adherence to principle. He has thereby declared himself lacking in elementary preparation even to gaze upon the character of Lee. However, in emphasizing acts which revealed Robert E. Lee's self, the author of the screed in the *New York Sun* has paid that tribute to greatness which even the lowest may bring.

Enterprise for the South.

One of the most attractive features of the meeting last week of the New England Cotton Manufacturers' Association at Washington was the trip arranged for the manufacturers through the courtesy of the Southern Railway Co. At the conclusion of Thursday's session the manufacturers took a special train on the Southern Railway, with Mr. M. V. Richards, chief of its land and immigration department as cicerone, for a run to some of the important cotton-mill centers in the South.

Five years ago the New England Cotton Manufacturers' Association held its regular meeting at Atlanta. That was the first time that the association had met outside New England. The meeting at Washington this year may be regarded as a Southern meeting. Among the subjects considered, markets for American goods, cotton export trade with China, American-grown Egyptian cotton, the cotton plant and Southern textile development were of special interest to the South, although in the cotton industry there is hardly a topic bearing upon the question in which cotton manufacturers in all parts of the country are not vitally interested.

No better winding up of the meeting could have been devised than the trip over the Southern Railway, for it enabled the members of the association to observe the wonderful progress made

during the past five or six years not only in textiles, but in other industries in the South. It also gave them an opportunity to be welcomed by their Southern brethren, and will be promotive of the harmonious feelings which must prevail if the American cotton industry is to attain proportions within its capabilities.

The enterprise shown by the Southern Railway in arranging the trip is but a manifestation of its broad and liberal general policy of persistent work in directing attention to Southern resources and in doing all within its power for their development.

The Southern Farm Magazine.

In its November issue the Southern Farm Magazine makes an offer that anyone who subscribes to it before December 31, 1900, will receive it for one year at the nominal cost of twenty-five cents. This offer is made in a desire that every farmer in the South, and, in fact, every farmer in the country who wants to know of Southern opportunities and Southern prospects should read the Magazine, and that it may be in the hands of every man and every woman interested in the up-building of the South and aiming to keep abreast of the advancement of that section in agriculture and manufacturing. The aim of the Magazine is to be an exponent of the best that is in the South, an inspiration to healthy growth in all lines of activity and a source of entertainment for the family on the farm or in the town. Southern farmers have bright prospects at the turn of the century. They will be better fixed to enjoy the good things coming to them in 1901 if they start the year and the century with the knowledge that the Southern Farm Magazine will be a regular monthly visitor to their homes.

The November issue contains, among a variety of interesting papers, one by Elias Edmonds of Texas on the growth of truck-raising in that State, which is full of suggestions for truck-raisers in other parts of the South; one by J. G. Pratt, urging the South to enter broadly upon the cultivation of flax for seed and fiber as a winter crop; one by Col. J. B. Killebrew on trees, indicative of the kinds of soil, and one by A. Saxon, sketching recent manifestations of the negro race as bearing upon the South's labor problem. The editorial, the literary and family departments are full of good things.

The Southern Farm Magazine is published monthly by the Manufacturers' Record Publishing Co., Baltimore, Md. Price \$1 a year. For new subscribers between October 27 and December 31, twenty-five cents a year.

IN AN ERA OF PROSPERITY.

Mr. Robert J. Lowry of Atlanta Wants no Change of Conditions.

In an interview in the *Atlanta Journal* of October 13 Robert J. Lowry, president of the Lowry National Bank of Atlanta, said:

"I cheerfully give you my impressions at this time upon the conditions of the country, especially of Georgia. The lowest estimate I have heard of the cotton crop of Georgia is 1,000,000 bales, which will probably average over 500 pounds, and this will bring at a fair valuation \$50 per bale, or a total of \$50,000,000 for the crop. The cottonseed, I think, at a conservative valuation would amount to \$10,000,000. The cottonseed oil and cottonseed meal would be to add to this, which would make it a very large sum. The crop of wheat, oats and corn has been fairly good in most of the sections, as well as a handsome increase of live-stock. The peach and melon crop has been about

an average, and truck-farming is gradually growing and amounts to quite a large sum. When you take the manufacturing and other industries and add them to the value of the agricultural products of Georgia you will have a sum aggregating largely over \$100,000,000 for the year ending September, 1900.

"The great beauty about the lately-raised crop of cotton is that the benefit of the high prices was realized by the producers. I don't remember when this was the case before, as the advance was generally later in the year, after the planters had parted with their crop.

"This prosperity dates back, I think, from 1898. We began to feel the effects of it a little before this time. Whether they are entitled to the credit for it or not, the present administration certainly has been fortunate in having this prosperity come during their rule.

"I have traveled a great deal in the last few months, have met the business people of the country, and especially the bankers, who are the custodians of the people's money (and without their deposits could not pay a dividend upon their stock), and the universal opinion is that our prosperity is of a stable kind, and will remain with us if we do our duty.

"I would add further that it is the sentiment of most of the people with whom I have talked that a change of administration, and a consequent change of policy, at this time would be fraught with great danger, followed by close tight times, and the march of prosperity would be checked, anyway for quite a time.

"I am firmly of the belief that the acquisition of Porto Rico, Hawaii and the Philippine Islands will be ultimately of great value to us, as they will be large consumers of the products of the soil and factories of the States. This, with the open-door policy of China, will give us great advantages in the Orient.

"It is a matter of fact that many of our Georgia cotton mills are shipping their product now to China, and find a growing demand for their goods in that market. With the advantages that we have now gained in the East, if the government would encourage the merchant marine by subsidy and ultimately build the Nicaragua canal, our trade would increase to such an extent as to put this country the foremost of the world.

"I do think that it is unpatriotic at this juncture to criticize the administration for its method of dealing with the Philippine Islanders. I think the course of this government has been entirely correct, and until these islanders lay down their arms and submit to our authority our troops should remain there to maintain order and protect the lives and property of non-combatants. We came by this possession honestly and honorably, and it behooves us to hold it both to uphold the sovereignty of our flag and to remain seized of a valuable asset in the years to come."

Prospectors in Virginia.

[Special Cor. Manufacturers' Record.]

Hot Springs, Bath County, Va., Oct. 19.

The past few months has seen quite a number of agents of investors in Bath county examining the iron-ore deposits and the amount of timber to be gotten. The Baltimore & Ohio Railroad has had its agents making a general examination of the mineral deposits on Bock creek and Jackson river, and it is understood that if this examination proves favorable it proposes to construct a branch line to reach these deposits. One of the largest of the Pennsylvania lumber companies has sent one of its men here to inspect the lumber on the large tract lying between Bock creek and Jackson river.

J. T. M.

THE DUTY OF THE HOUR.

John Skelton Williams of Richmond Tells Why, in Company with the Three Living Democratic ex-Governors of Virginia, He Believes It to Be His Duty to Oppose Bryanism.

Under date of October 18 the editor of the Manufacturers' Record addressed to Mr. John Skelton Williams of Richmond, president of the Seaboard Air Line, and largely interested in many enterprises that are adding to the prosperity of the South, the following letter:

"While attending the meeting of the New England Cotton Manufacturers' Association in Washington yesterday I was struck with the great interest evinced as to the policy of the South in the present political campaign. One of the leading members of the association, representing large capital and himself a considerable investor in the South, said to me that there was practically unlimited capital in the North which would be readily invested in Southern enterprises if the North felt entirely safe in putting its money in the South. In effect his statement was this: 'As the whole business element of the country feels a hesitation at present in making new investments or going into new enterprises because of the bare possibility of the election of Mr. Bryan, so the capitalists of the North at all times feel a hesitation about investing in the South because of its position in the past and at present in favor of what may be called Bryanism.' 'I know,' said he, 'that the business people of the South are largely opposed to Bryanism, because they tell me so; and yet they do not seem to appreciate the fact that they are depending upon the North and West to save them from the disasters which they know would come should Mr. Bryan be elected.' 'It seems to me, therefore,' he added, 'that it is incumbent upon the business leaders of the South to show their colors, and, if they are opposed to Mr. Bryan, to take an open stand against him in this campaign, which means so much for the honor and prosperity of the United States.'

"In the light of this idea, that it behooves the Southern business man, who realizes the danger to the South as well as to the country at large of Bryanism, to make known his position, I should be very glad to have your views upon the duty of the South in this campaign. You have been so intimately identified with the best interests of the South, and have accomplished so much for its upbuilding, that as one of its greatest business leaders your views must necessarily carry great weight.

"The Manufacturers' Record is opposed to Bryanism because it believes that the policies which it represents would be disastrous to the country, and especially to the South; but its columns are open to the fullest and freest discussion of such public questions, and, whether or not you agree with the position which we have taken, I shall be glad to publish your views upon these questions."

In reply to this we have the following letter, which the people of the South, who have watched with so much interest the great work for Southern upbuilding which has been accomplished during the last ten or fifteen years by Mr. Williams, may well study with deep interest:

"Seaboard Air Line System,

"Office of the President,

"Richmond, Va., October 22.

"My Dear Sir—I have received your esteemed letter of the 18th inst., which I have read with interest.

"In answer to your question, I say to you that I shall vote for Mr. McKinley, and hope for his election, because I believe that Mr. Bryan was sincere and truthful when he publicly and explicitly declared:

"I do not want any man to vote for me and then object to my doing what I expect to do if you elect me; and if I can prevent the maintenance of the gold standard you may rely upon my doing it the very first possible opportunity I have."

"He has made no announcement reversing this declared intention, so far as I know, and I feel sure that he would, if elected, try to make good his solemn pledges and undertake to put the financial system of the country on a free-silver basis. I do not see how he could escape attempting the performance of these pledges.

"As a business man having a large stake in the country's welfare, and representing large investments by others, I naturally consider the probable composition of Mr. Bryan's Cabinet, should he be elected. Allowing him to be a truthful and honest man, I can see nothing but a free-silver Secretary of the Treasury and a Cabinet built to fit.

"I recognize and sympathize with the fear of immense accumulations of capital in a few hands, but I believe that American intellect and honesty will find a way to avert the dangers they threaten. Mr. Bryan and his followers seem to me, from their utterances, to believe that the only way to oppose these dangers is to assail all corporations and all accumulations and representatives of capital. That is the impression they have made on me, and I take myself to be an honest and well-meaning man of average intelligence. I assume that other men in the country representing investments already made or under consideration, and capital awaiting investment, understand Mr. Bryan as I do. They are more nearly unanimous in opposing him than I have ever known them to be on any other question.

"Feeling this way, and knowing of many others who feel and understand as I do, I can foresee, in the event of Mr. Bryan's election, successive periods in which every man who has a spare dollar will hold on to it awaiting events. The spare dollars are the dollars which establish new enterprises, build towns and cities, employ labor, make progress, send prices upward and establish prosperity, provided the dollars are honest and full value. They will wait until the new administration is inaugurated and defines its policy; until the new Cabinet is named and the policy of its various members towards various interests is known.

"This insures waiting and consequent stagnation and trade paralysis for the preliminary period of, say, six months. If Mr. Bryan is true to his promises and his friends, I do not see how he can avoid naming a Cabinet which will threaten every dollar in the land with depreciation, every investment and incorporated enterprise with persecution. When the Cabinet has been formed and the policy of the Bryan administration formally announced, the forces of evil will be let loose. The temporary panic which was experienced in August, '06, was but a premonitory indication of the disaster to the country which would follow the political success of the free-silver candidate.

No war in which this country could engage could cost it so much as a panic and two or three years of stagnation and depression. The money spent in war remains in circulation. The money lost in panics vanishes. The soldier is always fed and clothed, and if he is killed or maimed the government cares for those dependent on him. The man deprived of work or means by shrinking values and paralyzed industries has nobody to look to. The mortality which proceeds from starvation and want, the disease which travels with desperation, and the crime which accompanies idleness and hunger are the usual fruits of industrial paralysis and languishing commerce. I will venture the assertion that the mortality and distress incident to a commercial panic and the hard times that follow are far greater than the mortality, the disease and privation which have thus far proceeded from our recent war with Spain, the insurrection in the Philippines and the troubles in China, all combined. Rust destroys as surely as fire.

"I represent 10,000 employed men of the best classes of American citizens and \$100,000,000 of invested capital, and I feel my responsibility to both. The same conditions that give my stockholders and bondholders their dividends and interest give the workingmen their wages. In voting for President McKinley I shall feel that I am doing my part as an American citizen to defend the interests of men and money, for it is to the interest of both to have exchanges between buyer and seller brisk and new enterprises constantly developing. I shall feel that I am voting for the interests of the South, because this section is on the up-grade, and, more than any other section of the country, requires the maintenance of the confidence that makes capital seek opportunity and outlet instead of withdrawing to await results.

"I recognize the importance of our foreign policy and the trust problem, but the American people can be trusted to deal with these as they have dealt with other questions, in due time and in order, bringing such changes as may be needed step by step. There is no emergency to justify us in inviting the fearful commercial dangers which Mr. Bryan's election would

bring, the disasters which the execution of his declared purposes and the fulfillment of his promises would surely develop.

"The dangers which may eventuate from trusts and so-called imperialism are remote—months and years away. The dangers of an apparent endorsement by the American people of Mr. Bryan and free-silver coinage—and the two are inseparably united—and of a free-silver-coinage administration are immediate. They will be upon us in three weeks, if at all.

"There is a curious inconsistency in the position of those who contend that Congress can guard us against free-silver coinage and seem to think that Congress cannot defend us against imperialism or be trusted to deal with trusts. Mr. Bryan can precipitate a panic upon us without the aid of Congress and against its will. Mr. McKinley cannot commit us to imperialism or deliver us over to the trusts without a Congress to help him.

"I have not, however, the least idea that Mr. McKinley wishes to make himself emperor or to destroy our liberties. If he had any purpose of that kind he would, it appears to me, have begun on the South, where the necessities of our condition have given him pretexts. As a matter of fact, he has left us a free hand to work out our own particular problems in our own way, and he has impressed me as a broadminded, conservative and patriotic citizen of unusually pure personal character, whose mistakes have resulted from his anxiety to obey what he believed to be the will of the people.

"I am anxious to be true to the interests of my part of our country and its people and traditions, political and otherwise, and I have always voted the democratic ticket until Mr. Bryan and the free-silver, class-antagonism doctrine he represents with such faithful fanaticism were thrust upon the democratic party. I cannot think I am wrong now when the conclusions to which I am impelled are shared by every man of affairs with whom I am in touch, by all the three living democratic ex-governors of Virginia, and by the only democratic President the country has had in fifty years.

"Sincerely yours,

"JOHN SKELTON WILLIAMS."

INDUSTRIAL COMBINATIONS AND THEIR MATERIAL ENDS.*

By Charles R. Flint.

A combination of labor is a trade-union; a combination of intelligence a university; a combination of money a bank; an industrial combination is a combination of labor, intelligence and money, popularly misnamed a "trust." Combination is coincident with civilization. Savages have little power to combine, because combination depends on trust in our fellow-man, and in primitive life it is fear that rules.

In the evolution of industrial life one of the first steps was to subdivide production into trades. Each did what he could do best, settling accounts by an exchange of products. Later, those engaged in the same trade formed partnerships, then corporations, and, finally, consolidations of corporations.

Against this march of industrial progress there has always been opposition. There have always been those who, appealing to special interests, to the unsuccessful, the discontented and the misinformed, have endeavored to obtain political favor by opposing progress, by endeavoring to prevent the natural, and mutually beneficial, co-operation between

capital and labor. There was an anti-fast mail party in England in the time of Charles II, and the king and council were petitioned to decree that "No public coach should be permitted to have more than four horses, to start oftener than once a week, or to go more than thirty miles a day." Macaulay's comments on this historical record read like prophecy. "We smile at these things," he said, and predicted: "It is not impossible that our descendants, when they read of the hostility offered by cupidity and prejudice to the improvements of the nineteenth century, may smile in their turn."

Today there are men of intellectual refinement and pleasing personality far removed from the centers of finance, commerce and industrial activity, who read of industrial life, but who are not in it; who are studying the history of industrial progress, but are not making that history—and yet, as Bismarck said, "cursed with the dangerous gift of oratory," they are advocating theories in business and finance that, if adopted, would shake the very foundations of our industrial existence. They are half-thinkers, because they think without the facts. They remind me of General Grant's most amusing after-dinner speech to the newspaper

*An address delivered before the Illinois Manufacturers' Association at their annual dinner on Chicago Day, October 9, 1900.

men of New York. He said: "A feeling of awe comes over me when I realize that I am in the presence of men of such marvelous capacity. Your rapidity of conception, your unerring judgment, seem supernatural. When I was before Richmond, surrounded by men who had made a life-study of military tactics, when, after days and nights of deliberation, a plan of campaign was finally determined upon, one of you would get down to your office late at night and in a few minutes dash off an editorial telling how we were all wrong, and pointing out what we ought to do. Your remarkable versatility was shown in formulating legislation, and you were peculiarly strong in international diplomacy where the existence of State secrets made it impossible to get at the facts."

In this great territory of ours we always have with us those who try to make people believe that their siding is the main track. We have had the "know-nothing" craze, the "greenback" craze, the "granger" craze and the "silver" craze, but they were all rejected by the good sense of the American people. Today our farmers recognize that the markets of the world have been opened to them through the great systems of railways, which have resulted in the heavy steel rail, the 80-ton locomotive and the continuous haul. Economically the wheat fields of Dakota lie nearer to London and Paris than the farms of Yorkshire and Burgundy. Thus favored, our farmers during the past four years have paid off so many mortgages that if ground into paper pulp they would make ballots enough to elect a President.

The men of sound judgment, leaders in the industrial wars for the supremacy of the American farmer, the American manufacturer and the American wage-earner, should not be disturbed by the clamor of those who are not in the struggle, and therefore cannot appreciate the actual conditions, and whose leadership, if accepted, owing to their inexperience, would conduct us to inevitable disaster.

"The tendency of modern trade is toward consolidation, because the administration of the largest mass is the cheapest." Centralized manufacture permits the highest development of special machinery and processes. The factory running full time, on large volume, reduces the percentage of overhead charges. Direct sales on a large scale minimize the cost of distribution. Centralization of manufacture and distribution reduce aggregate stocks, and therefore save in the shop wear, storage, insurance and interest. Consolidated management results in the raising and fixing of the standards of quality, the best standards being adopted; in avoiding waste and financial embarrassment through overproduction; in less loss by bad debts through comparisons of credit, and in securing the advantages of comparative accounting and comparative administration.

Industrial evolution, which is as inevitable and as unalterable as the law of gravitation, has attained its, as yet, highest development here in the United States. Every unprejudiced man must recognize its advantages, and that it is because of them that we are taking so important a position in the world's markets, increasing our national wealth, furthering the welfare and increasing the prosperity of our people.

The great problems of the economics of production have been solved; from this time forward all economic thought will be concentrated chiefly on the economics of distribution. And so the matter which today most interests us is not so much the fact of our great industrial prosperity; it is rather the question whether the ad-

vantages of that prosperity are equitably divided among the contributors to it:

1. Capital.
2. Superintendence, and,
3. Labor.

1. The share to capital takes the form either of interest or dividends. Now, we find that the rate of interest paid to those furnishing money to industrial enterprises is steadily decreasing. Fifty years ago the average rate throughout the United States was 8 per cent. per annum. Now it less than 5 per cent. This general rule can be laid down, that the greater the confidence the higher and more perfect the industrial organization, the lower the rate of interest. During the year 1896 the stability of our currency and the fundamental conditions of our industrial development were regarded by many with doubt, and money loaned as high as 25 per cent. The banker is ever willing to take lower interest in exchange for greater security and for a steadier and less precarious demand for his funds, and so that form of industrial organization which furthers careful financing, opens wider markets and guarantees greater confidence and stability is directly in the interest of capital, although the rate of return on capital is thereby steadily reduced.

The dividends received by shareholders are larger than the interest rates, because the risk is greater, and, moreover, being partners and shareholders, they are entitled to a larger share in the advantages of combination. Still it is doubtful if the aggregate of dividends is anywhere near as large as the aggregate of interest. Moreover, dividends are never absolutely certain, and they are never paid until labor and superintendence have first had their share.

2. Now what is the position of the man of superior intelligence, for superintendence stands midway between capital and labor?

Highly-developed organizations resulting in enormous volume of business have increased the necessity for intelligence, and as the supply of brains is not equal to the demand, therefore the price of brains is high. The turning over of individual business to combinations has caused the retirement of old men to the advisory board for judgment and has made way for young men for action. You ask, "What chances have our young men?" While you are asking the question those of ability and energy have already started on a career of successful industry. If the student will leave his books and the orator the stump and go to our factories, to our great farms, to our mines, to our lines of railway, they will find ten times as many men receiving over \$3000 per annum as there were thirty years ago.

Mr. Schwab of Pittsburg is a type. He started as a stake-driver of the engineering corps. Today, though under forty years of age, he is president of the largest iron company in the world, and I can point out a hundred successful men today where you could not have named ten under old conditions.

But, it is said, they are dependent. Dependence upon each other is, however, the condition of civilization. The very word civilization implies community life, and community life means mutual dependence. Complete independence is found only in the wigwam of the Indian. There the young man builds his own house, makes his own clothes, gets his own meat and keeps his bank account, if he has any, in his pocket. The best opportunity he has for distinction is in showing superior prowess in hunting or superior strength in paddling his own canoe. In civilized life interdependence is

more profitable than independence. Your young man, instead of paddling his own canoe, can command one of those great combinations which are doing so much to benefit the world, the steamship. The fact of the man on the bridge being dependent on the engineer who is running the powerful machinery below does not prejudice him any more than the engineer is prejudiced by taking his orders from the man on the bridge. Each gives the other his opportunity.

Was Captain Clark less the commander or Chief Milligan less the engineer because they were dependent on each other in making the historic run and the splendid fight of the "Oregon?"

You might just as well say that a man has no opportunity in political life because we have a police system and no man can do as he pleases. On the contrary, just as a good system of national police is a guarantee of liberty, so these great organizations are guarantors of opportunities which otherwise would never exist.

But let us not spend more time in considering who will take care of these young men of high aspirations and superior intelligence. They will take care of themselves. The Almighty has given the greater power to superior intelligence, and as Samuel J. Tilden, one of nature's great monopolists in the domain of intellect, has said, "You cannot substitute the wisdom of the senate and assembly for the plan of moral government ordained by Providence."

3. Let us now consider the interests of the workingman in this economic evolution which has produced the perfect machinery and giant factories, supported by great aggregates of capital represented by shares which enable all to become investors. It is a fundamental fact that the man of superior ability cannot accumulate for himself without giving to the wage-earners an opportunity to earn the larger share, and it is always an increasing share.

The tendency is today to a minimum of profits and to a maximum of wages.

When profits become abnormal they invite competition and are immediately reduced, in which case the consuming world is benefited solely. If they are not sufficiently abnormal to invite competition, then labor demands a larger share of the profit in the form of increased wages, and it is either voluntarily or necessarily agreed to, in which case the body of wage-earners reap the advantage. And, inasmuch as the body of wage-earners is the great body of the community, it necessarily reaps the advantage in any case. Employers know almost as promptly as do the employees whether a mill is earning an extravagant profit. If it be they at once demand their share, and the employer must and inevitably does succumb. It is thus that wages always tend to a maximum and profits to a minimum.

The maintenance of the high standard of wages now paid in the United States is absolutely dependent upon our realizing the advantages which come through superior organization. We are today shipping manufactured goods to countries where the rates of wages average 40 per cent. less than our wage-earners are receiving. Of our exports of manufactured goods 80 per cent. are produced by large industrial corporations. Articles of manufacture which we do not produce through consolidations are being almost entirely supplied to the neutral markets by the cheap labor countries, Germany, Belgium and England. The centralization of manufacture and consequent use of special machinery have emancipated the slave, have raised the American workman to the position of overseer, not of

pauper labor, but of its productive equivalent, machinery. And he is receiving, and is entitled to, the wages of superintendence. Note the continuous substitution, through the use of larger capital, of mental labor and manual skill for pure brute force. Nothing illustrates this better than the evolution from the galley, where the sole power is muscle at the end of the oar, to the modern steamer. Notice also the moral difference. The man at the end of the oar was a slave. The modern engineer is a freeman of the highest type.

Now the intelligent labor leaders understand this perfectly. It was my pleasure to entertain at my home some of the best known of these. Speaking of labor conditions, I asked one of them to define the difference between his organization and that of the professional agitators. He replied: "We hope to bring about by evolution what they claim should be accomplished by revolution." They said that they welcomed new machinery, because it did the work which had heretofore degraded labor.

The wage-earners of the United States are today enjoying a higher standard of living and a larger measure of well-being than wage-earners have ever before enjoyed in the history of the world. They are the real money power. The railroad managers have rails and rolling stock, the miner has mines, the manufacturer has bricks, mortar and machinery, and most of them have debts and many are mortgaged to the banks for savings, but the wage-earners in the United States have on deposit in cash in savings banks, subject to call, \$2,500,000,000.

Thus through co-operation and combination every interest is being benefited, but labor most of all. As wage-earners become more intelligent, as they become overseers of machinery, they better understand these conditions. They have the intelligence to recognize that their greatest comfort and happiness is in furthering the industry of which they are a part. Today one of the great advantages that the United States has over Europe is that its laborers are the more intelligent, are the healthier and happier. The European wage-earner, instead of welcoming labor-saving machinery as our workmen in the United States have done, has tried persistently to retard its general use, and the result has been that while wages have been lower in Europe, the American workman has received more, because he has produced more, and this is the great reason why, notwithstanding our high wages, we are so rapidly extending our trade with foreign markets. The best factory inevitably gets the most work. There is a continued struggle for existence between good factories and poor factories, and the good factory invariably wins.

The law of consolidation of capital and division of labor holds as good in the field of distribution as in that of production. It is inevitable and it is profitable. The department stores and the money-order stores sell for 10 per cent. instead of 30 per cent. profit, and the consumer thus saves 20 per cent. The profit obtained by the distributor of staples on the way from the farmer to the consumer is less than one-quarter of what it was thirty years ago. The farmer secures a wider market, the consumer gets his staples just so much more cheaply and the enterprising middleman avails of improved banking and transportation facilities to do a larger business. This is why he has adopted as his motto, "Quick sales and small profits."

The real benefits of "capitalistic production," as compared with production on a small scale, are twofold. The first and greatest benefit of industrial combina-

tions goes to the whole body of the community as consumers through reduction in prices. The next benefit, and that next most largely distributed, goes, as I have shown, to the workers through increase of wages, and thus it happens that the workman gains simultaneously in two ways. He gets more money for his work and more goods for his money.

Having reviewed the position of our great consolidated corporations as the results of an economic evolution, I feel that something should be said with regard to their capitalization. In general there has been much greater conservatism in the capitalization of industrials than there was in the original capitalization of railroads. Our railroads were built principally for the amount of the bond issues, and the stock represented the capitalized hopes of the projectors. The issues of industrial bonds have been considerably below the actual value of the tangible assets, and industrial stock issues have generally been based on actual earning capacity. Still it is undoubted that there has been more than one instance of marked overcapitalization of industrials, and no proper legislative measure to remedy this wrong or prevent its recurrence should be neglected.

Fortunately, the evil caused by careless investing and unwise capitalization tends to correct itself by natural laws. Investors, naturally timid, confused by the few inflated industrials which were put out simultaneously with the sound ones, are afraid to buy, and the organizers, unable to sell their securities, now realize that sound capitalization is the best policy.

In organizing industrial companies preferred stock, which is intended for an investment security, should not be issued in excess of tangible assets, except in special cases where there is a very large earning capacity protected by valuable patents or trade-marks. Verified earnings and regular dividends will establish confidence, and the prices of the shares in the well-organized and well-managed industrials will advance as did the stocks of railroad companies which were originally issued for good will.

While I believe in great organizations; while I know that they are a necessity in order that this country should become a great power in the economic world and thereby continue the prosperity of the wage-earners of the land, I do not believe in large aggregations of wealth in the hands of individuals unfitted to wisely administer such great trusts. One of the unfavorable features of our industrial situation is that the men of great constructive ability are passing away, and instead of there being a lack of opportunity, it will be difficult to find men to assume the arduous responsibilities of industrial leadership who have the knowledge, the judgment, the ability and the integrity of Carnegie and Huntington, of Rockefeller and Field, of Armour and Vanderbilt—the thinkers, the doers, the organizers—men whose creations are the great landmarks in our industrial history.

It is fortunate that we have had such leaders. They did their work with the aggressive force that comes of natural energy and temperate living and with the judgment that comes of experience. They have understood and have been in sympathy with the people because they have been of the people, and the example of those men, rising from the ranks, gives impulse, encouragement and high aspirations to every workingman in the land. They made their fortunes by reducing the percentage of profits and increasing the volume of business; by reducing the rate of freight on a barrel of flour to the Atlantic from \$3.50 to sixty-five cents;

by reducing the price of steel from \$100 per ton to \$20; by improving the quality and reducing the price of provisions and by-products, while paying a higher price to the farmer for the animal; by reducing the price of oil from thirty cents to ten cents; by reducing the price of cotton cloth from twenty cents to three cents. They realized that in order to make their combinations a grand success they must increase production by reducing prices to the consumer. Thus they not only helped to develop a great home trade, but enabled us to open the door of foreign markets, which has resulted in an enormous balance of trade in our favor, on which our prosperity so largely depends.

The industrials today are owned by the many. While economic evolution is centralizing production in large corporations, decentralization of ownership goes on simultaneously through the rapid distribution of shares. There are many hundred times more partners in manufacture, mining and railways than there were thirty years ago, and the number is rapidly increasing. Under the old conditions of private firms the number of female investors averaged but 2 per cent. Now in every corporation they have many shares, and as shareholders they have the full right of suffrage.

Under the old conditions of private ownership the control of many of our industrial enterprises would have been inherited by one individual or family. Now the control is subject to the same rule that prevails in the administration of our State, and that is the rule of the majority. It is seldom (and fortunately so, as preventing great aggregations of wealth in the hands of individuals or families) that the heirs of giants in industry have the capacity to succeed to the direction of gigantic enterprises. Many inheritors of great fortunes, enervated by ease and luxury, prefer a life of indolence or to chase the will-o'-the-wisps of society; others prefer to devote their time to literature or art; others to enter upon scientific pursuits. Under the old conditions they would have inherited the control of industries, but under the present conditions of industrial consolidations the majority of the stockholders—for, generally speaking, the numerical majority is also the majority in interest—elect as officers aspiring young men who, through years of application to a particular industry, have proved their ability and judgment to assume the responsibilities of leadership. Thus the fittest survive.

In life nothing is stationary. Contraction or expansion goes on continuously, and if you don't expand you contract. It is so with nations. Spain contracts, the United States expands. So it is with industry. There are periods of expansion when the mills are running full, and there are periods of contraction when the number of unemployed is large. Confidence is at the foundation of expanding business activity. The amount of business transacted on credit is over two thousand times that transacted in exchange for gold or silver. If there is confidence the manufacturer employs many hands, the laborer purchases more, the retailer sends more orders, the jobber orders more from the manufacturer, the manufacturer to still further increase his output employs more hands, and every man who wants work can find it. This is prosperity.

Lack of confidence causes contraction. The manufacturer is afraid to make many goods, discharges some of his laborers, they purchase less, the jobber cancels his orders, the manufacturer must still further reduce his pay-roll. The result is "hard times."

During the past few months of political agitation sufficient uncertainty has ex-

isted to reduce business activity, in spite of the country being in a most favorable condition for trade. Nothing better proves how sensitive confidence is than this holding up of business because of the remote possibility of legislation which may conflict with natural laws. In 1896 the fact that a national party advocated the undermining of our financial, legal and industrial systems created sufficient uneasiness to cause our bank clearings to decline 12 per cent. in comparison with the corresponding months of the previous year. It caused our interest rates to advance to 25 per cent. per annum and threw out of work a whole army of men and women. You are all familiar with the change which took place in 1897 when conditions became assured—how renewed confidence set the wheels of prosperity in motion, a result which everyone familiar with industrial conditions then predicted, just as we now know what will take place as soon as confidence is again restored.

If the mere possibility of unwise and immature financial and industrial legislation caused such a panic as that of 1896, what a terrible cataclysm would be occasioned if, instead of the possibility, we were confronted with the actuality. The difference would be that between the storm and the cyclone. On the other hand, remove all questions as to the sanity and conservatism of our laws, as to the stability of our currency, as to the continuity of our industrial development in accordance with natural laws, and we will have a condition of prosperity such as no country in the world has ever known. When we entered upon a period of prosperity in 1897 it was after convalescing from a period of severe contraction.

Now we are producing gold at the rate of \$1,500,000 a week, and have a balance of trade in our favor of over \$10,000,000 a week.

Our exports of manufactured goods have been 40 per cent. more during the past two years than during the previous two years, and the balance of trade in manufactures has amounted to more during the past four years than during the previous existence of the republic.

Owing to the mistrust in 1896 we were obliged to appeal to Europe for financial help. We were obliged to borrow money at high rates of interest. During the past four years, owing to our undisturbed industrial development, we have exported the products from farm and factory to such an extent that the balance of trade in our favor has amounted to \$2,000,000,000, which makes us a great factor in foreign commerce and a world-power in finance. England, Russia, Germany and Sweden have come to us for money, and the credit of the United States government is higher today than that of any other nation. When all doubt is forever removed as to the perpetuity of our gold standard and no doubt possible as to the manner of selecting a Supreme Court, to which we must look for the enforcement of our national obligations as written in terms of gold, the American eagle will inevitably become the unit of international exchange in place of the English sovereign.

In view of the fact that the maintenance of high wages in the United States is largely dependent upon our increasing exports, the question is asked whether we could sustain them in competition with the cheap labor of China were China to become a manufacturing country. The best answer is that last year, among our other exports, we shipped 2,000,000 yards of cotton cloth to the Chinese. The average rate of wages paid by us in its manufacture was seven times the average rate of wages prevailing in China.

The Chinese, like the people in our own country who have a Chinese cast of mind, do not recognize the advantages of combination. Industrially they are living in the land of yesterday, instead of in America, the land of today and tomorrow. Notwithstanding her great agricultural and mineral wealth, notwithstanding the fact that she has the largest body of cheap labor in the world, China is not an efficient competing factor in the field of production, because, in spite of all these facilities, she has none of the antecedents, intellectual, political, financial or mechanical, for large-scale production under modern conditions, since she possesses none of the instruments of commercial greatness and social well-being. Twenty centuries of stationary policy and of looking backward have made political progress and economic development impossible for China. She has remained in industrial infancy. Lacking organization and all that goes with organization, production on a large scale, aided by large aggregations of capital and under conditions which attract and ennoble the greatest abilities, her agricultural and mineral wealth and her cheap labor cannot save her. She is left utterly behind in the economic race, and her vast territories are now threatened with partition among the European powers.

Our contractionists would practically have us put a wall around the United States which would reduce wages and prevent the working out of our destiny as a world-power in commerce, in finance and in the greater and nobler field of doing our part in the advancement and civilization of mankind.

Situated as we are between the great oceans, combining the strength of a great land-power with that of a great seapower, we are pushing our way across the Pacific as we have already done across the Atlantic. But this increase is small compared with the increase that is destined to take place when no question is being raised as to the stability of the foundations on which rests this great industrial prosperity.

With our untold natural resources, with our inexhaustible supply of metals and coal, with our great forests, with every variety of soil and climate, with the most industrious, most intelligent and most contented peoples working under the best conditions of modern methods, we are destined to become the economic masters of the world.

KENTUCKY COAL AND OIL.

Developments in the Vicinity of Somerset.

[Special Cor. Manufacturers' Record.]

Somerset, Ky., October 16.

Within the last few weeks a large number of Eastern capitalists have been negotiating for coal property in the southern part of this county. An Eastern syndicate has recently closed a deal for a large tract of land belonging to the Van Winkle heirs, consisting of 20,000 acres. There are several desirable properties in consideration and a large amount of development is going on in the county. Messrs. McDonald, Johnson and others of Seymour, Ind., have been here for several days and are guests of the Commercial Club, for the purpose of putting in a stove factory at this place. They have about decided to locate here; their factory will employ about 100 men. The Beaver Creek coal property which was recently purchased by R. S. Crawford of Hagerstown, Md., has been remodeled and a railroad to the heart of the coal field has been repaired, and they have now a capacity of 1000 tons per day. Several Northern capitalists are negotiating for a fran-

chise in this city, in order to erect an electric railroad. The timber business, which has been sluggish for some time, is getting more active and a large amount of timber is being moved. Sim Grimes & Co. of this place leased a factory site and will erect planing mill at once. The stove dealers at this place are working full time and there is a large demand for other products.

The Kentucky Oil & Pipe Line Co., which was recently purchased by the Standard Oil Co., is being put in fine shape and the Wayne county oil territory is rapidly being developed. There is considerable talk of an oil refinery at Somerset to be built just after the election.

The Standard Oil Co. is making a survey from a point in Wayne county ten miles east of Monticello to the Bombar oil well in Fentress county, Tenn., and contemplate building a pipe line to connect with the Somerset & Slick Ford line which is now in operation.

WHEN ACTIVE BUYING COMES.

Lively Times Expected in the Birmingham Iron Market.

[Special Cor. Manufacturers' Record.]
Birmingham, Ala., October 23.

The record of the iron market the past week was a mixed-up record. It closed the preceding week with a fair business being done, and with every indication of a steadiness in the immediate future. Prices were practically unchanged, with a small sale of No. 1 foundry at \$11.50, and sales of No. 2 foundry at \$10.50 to \$11; No. 3 in a limited way at \$10 to \$10.50, and sandwiched in was a small quantity of basic iron at \$10.50. Gray forge varied from \$9.50 to \$10. These variations, it must be understood, are governed by the character of the orders, none of which were large, and all labeled "please give as prompt shipment as possible." Some buyers declared they would be compelled to shut down if purchases were delayed in shipment. Some pipe interests were again buyers, but not for requirements ahead. They contented themselves with supplying only pressing necessities, as has been their policy for some time past.

Sources generally well posted about the iron market and iron distribution declare that the average stocks of the pipe interests will not exceed thirty days' requirements; so when active buying does set in there must be lively times in the iron market.

The latter part of the week the unexpected happened. A leading interest revised prices and put a torpedo under the market labeled "No. 2 foundry \$10." It created a good deal of surprise, and at first gained no credence. But your correspondent, while he could get no confirmation of their action from the interest credited with the cut, struck a lead that went pretty straight home; so there is no escape from quoting the market as closing the past week on the basis of \$10 for No. 2 foundry. This drop will, of course, disturb the usual price differences between grades, and quotations cannot be given on other grades correctly until there are transactions on which to base them. But one could not be far out of the way who guessed gray forge at \$8.75 to \$9. Speculation is rife as to the influencing cause of the drop in price, and some attribute it to the strike situation. Enough strikers are out to cripple materially the operations of the steel mill, for they are running only two furnaces now. They will not shut down as long as they can run any part of their works, and they declare that under no circumstances will they concede the demands of the order of the Amalgamated Association of Iron and Steel Workers, that the mill be run

as a union mill. The necessary efficient skilled labor to replace the ranks of the strikers cannot be obtained here. An effort has been made to secure it from other industrial districts, and with success, as some of it is now en route to Ensley City. There is every prospect of obtaining all that is desired.

The Tennessee Company operates the Bessemer Rolling Mill, and employs several hundred men who are members of the same order under whose auspices the steel-mill strike was inaugurated. To aid their brethren the rolling mill institutes a sympathetic strike and walk out until affairs at the steel mill are settled to their satisfaction. In the meantime, no matter how it ends, there is an interregnum in business and an interruption to enterprise that can only inflict a loss to both sides and result in a strain to those cordial relations that have so far prevailed between capital and labor in this district. We can only await developments and the endurance of the principals. A very good business is reported in mining machinery and outfits, confirming the activity in this industry so often reported in these letters.

The trustees of the State University have leased to T. H. Aldrich about 520 acres of coal lands in Bibb county on a royalty, and several important bodies are being rounded up preparatory to conclusive sales if McKinley be elected.

The State Fair, to be opened the first half of November, is being rapidly advanced to open doors. Business dominates every feature of it, and it promises to be the most complete display of the mineral wealth and the agricultural advantages of the State ever shown. The march of progress still continues here; all lines of business have been added to, and so fast has our population increased that one-half are strangers to the other half. And they are still coming, although it is difficult to satisfactorily domicile people even where money is no object.

J. M. K.

The Iron and Metal Trades.

[Special to Manufacturers' Record.]
New York, N. Y., October 24.

In its review of the week the Iron Age says:

"Aside from some irregularities, the general trend of affairs in the iron trade has been in the direction of greater activity and added strength. Some very good orders have been taken, and there has been clear evidence that some discounting of an expected improvement later on is being done.

"In the Southern iron trade there has been a sudden change of front on the part of one pig-iron interest, and a cut in prices has been made to effect sales. Relatively speaking, Northern irons have been below the parity of the Southern metal, so that the bulk of the business has been taken by the latter. Under the stimulus of lower prices the volume of sales has expanded.

"In the cast-iron-pipe trade the item of greatest interest is that bids have been called for until November 1 for about 30,000 tons of pipe for Brooklyn and for the Bronx.

"There has been more inquiry for steel billets, and nominal quotations are higher than they have been. A report is current that a meeting of the leading billet makers has been called to be held in this city tomorrow, at which the principal Eastern and Western steel-makers are to be present. An effort is to be made to advance the price of billets to \$19.50 to \$20, makers' bill.

"There has been another spell of placing of shipbuilding orders. Two very large boats, probably ocean colliers, have been placed with the Maryland Steel Co., and the new yard on the Delaware has taken

two smaller vessels. This has brought out some very notable ship-plate orders, and has rendered the Philadelphia market more active.

"Very little that is definite is available in the trade on this side of the Atlantic relative to the large government orders for South Africa in which American competition is troubling English makers. Some figuring is going on, but nothing has been settled as yet.

"In the export trade reports indicate that in steel billets, etc., the Germans have lately appeared in Great Britain with very low offers. The collapse of the boom on the Continent naturally leads to raids elsewhere to keep the home market from breaking.

"Some good orders for structural material have been placed at home. Among them is one lot of upward of 5000 tons for a structure on the Hudson river. Generally speaking, recent reports relative to bars, sheets, wire and the smaller lines show a very healthy consumption.

"In the metal trades tin has again cut capers, and has declined further. Copper is still very firm, but it is difficult to escape the conclusion that the pronounced check to industrial activity in Germany must have its effect upon the metal. The Germans claim, and statistics bear them out, that in recent years their country has become the largest single consumer of the red metal."

CANNERIES FOR TEXAS.

Suggestions from an Observant and Progressive Railroad Man.

In a letter to the Manufacturers' Record Mr. John Howard of Houston, Texas, passenger and immigration agent of the Southern Pacific system, writes:

"In behalf of this company and the citizens of Seguin, Guadalupe county, Texas, I desire to thank you for the space devoted in your issue of August 30 to Seguin and its water-power, location for cotton factory, etc. This is certainly a good notice for that town, and will, no doubt, be the means of calling the attention of cotton manufacturers to that place. I assure you our company appreciates the good work you are doing in behalf of Texas.

"Speaking of manufacturing our raw materials reminds me of the fact that we are now shipping into Texas train and ship loads of canned goods (fruit and vegetables) from Baltimore and points in Ohio and California. While this is true, it is only a few weeks ago since we were shipping out trainloads from Texas to Northern States of as fine fruit and vegetables as ever grew in any State, and trainloads of fruit and vegetables that ought to have been canned rotted on the ground and were fed to hogs, and a great deal of that that was shipped out did not more than pay the cost of carriage and commission charges, leaving nothing for the producer. We have a few canneries that put up fruits and vegetables in the State and this past year they have done very well, and the products of the canneries are in demand, giving satisfaction.

"With such a home market as we have in Texas for canned goods in the fall and winter seasons, it does occur to me that we have a fine field for those who understand the canning business. East, Southeast and portions of Central Texas are well adapted to the growing of fruit, and when we succeed in canning the surplus, Texas will have a reputation for canned goods second to no State in the Union."

More than 95,000,000 copies—to be exact, 95,237,523—of the Ladies' Home Journal have been issued since the magazine was first printed, seventeen years ago. December, 1883, was the Journal's birth-month, and the first edition aggregated, all told, 20,000. The magazine was

well received at the very start, and from that time on its growth has been phenomenally rapid, the increase never halting, until the circulation has reached 923,000 copies a month. During the past eleven months the increase has averaged 47,000 copies per month over the corresponding interval of last year.

FROM ONE STANDPOINT.

A Southern Objection to Northern Criticism.

Mr. George H. Palmer, secretary of the Athens (Ga.) Manufacturing Co., in a letter to the Manufacturers' Record says:

"I believe, as you do, there is a great future before the South, and I can see nothing in coming time that will prevent this development, unless the threats made by prominent republicans, Cabot Lodge, Thurston and others, are put into execution. As sure as you live, if any interference is attempted by the coming Congress with the rights of the South to govern their own States, by the passage of iniquitous laws, just so sure will you see come to pass the condition of affairs that you deprecate in the conclusion of the extract, namely, a division of the two sections.

"The continued harsh and adverse criticisms of the South by leading republican journals and republican statesmen is not calculated to harmonize the two sections. The ignorance that is manifested as to the negro question, and the expressed determination to review the actions of those States that have modified (for their protection) the elective franchise, is a source of continual irritation and uneasiness. I am quite sure you will say, you are borrowing trouble. Not so. I have watched carefully the career of the republican party, and up to the present time have failed to discover any genuine fraternal feeling toward this section. The Presidents of that party (owing political debts) have as a rule paid the debts due in the South by the appointment of negroes to responsible offices, a procedure that would not be tolerated for a moment in Massachusetts or Ohio. It may be that it comes as a kind of punishment for us for having seceded from the Union. Be that as it may, it is a fact. Until the South is freed from the abuse of partisans of the North, and until the racial question is clearly understood and argued justly, will we fail to have that era of genuine prosperity you so ardently hope for. The war between the States has been over thirty-five years, and yet the criticisms of this part of the country by the element as previously mentioned is as vindictive as ever."

New Rice Mill Operating.

The rice-milling industry in the section contiguous to Jennings, La., is given largely-increased importance this season by the new mill recently completed for the Louisiana Rice Milling Co., Limited. This extensive new plant has just opened for the milling season, and is now in operation. The plant includes the mill proper, a four-story, 44x44-foot building; clean-rice warehouse 44x70 feet, two stories; rough-rice house 84x150 feet, with capacity for 35,000 sacks; bran and polish-house, 44x60 feet; engine-room, 22x44 feet; boiler-room, 30x45 feet. Power is furnished by a 150-horse-power Corliss engine, attached to two 100-horse-power boilers, which have chaff-burning equipment, and chaff is to be the only fuel used. All the buildings are lighted by electricity, the company having its own plant of 120 volts, the dynamo being operated by a 14-horse-power engine. The mill will clean 1000 to 1200 sacks of rice every twenty-four hours.

The Charleston Exhibition.

Under the plans determined upon by the directors of the South Carolina Interstate & West Indian Exposition Co., the main buildings of the exposition to be held at Charleston next year will be textile, agriculture, machinery and electricity, minerals and forestry, commerce and liberal arts, fine arts, transportation, woman's, educational and negro. It is expected that there will be still other buildings erected upon the exposition grounds, and that a number of the States of the Union and of the enterprising cities will erect suitable structures for the display of their characteristic products and resources. The purpose of the exposition is to bring together on Southern soil representative exhibits of the arts, industries, manufactures and products of the soil, mine and sea, and to illustrate in this way the magnitude of the resources and possibilities, particularly of the Southern States of the Union, and of the country at large, and in this way, at the opening of the new century, to cement more closely the bonds which now unite the parts of this great country. In addition to these "domestic" exhibits, the industries and resources of Cuba, Porto Rico, Mexico and the South American republics and of the Philippines will be illustrated in such manner as to aid in the development of new and closer trade relations between the United States and the markets which are waiting for American exploitation and occupancy.

That the exposition project is regarded with great favor throughout this country and in foreign parts is amply evidenced by the applications which have been received from manufacturing and mercantile people in all parts of the United States almost as soon as the very day that the announcement was made that an exposition would be held for the purposes heretofore cited in Charleston next year.

A little later, after the grounds have been laid off and the sites of the several buildings have been definitely determined upon, the work of apportioning space will begin, with the certainty that every nook and corner of the ten or twelve or fifteen main exposition buildings will be filled with objects of practical use and ornamental design.

For beauty and convenience of location, close touch with the three trunk railroad lines leading to this city, and of the easiest possible approach from the sea, the site of the exposition is unrivalled.

Our Growth in Area.

Former Secretary of State John W. Foster, in "A Century of American Diplomacy," which has just been published for him by Messrs. Houghton, Mifflin & Co., exhibits two interesting tabulations of the growth of the United States on the continent of North America, and in its insular possessions. According to the first of these, the growth in area of the United States on the continent of North America, as computed by the commissioner of the general land office May 2, 1900, is as follows:

| | Sq. Miles. |
|--|------------|
| Territory of original thirteen States..... | 909,050 |
| Louisiana purchase, 1803..... | 875,025 |
| Florida, under treaty 1819..... | 70,107 |
| Oregon, under treaty 1846..... | 288,689 |
| Texas, annexed in 1845..... | 389,735 |
| Ceded by Mexico, 1848..... | 523,892 |
| Ceded by Mexico, 1853..... | 36,211 |
| Alaska, under treaty 1867..... | 949,808 |
| | 590,446 |
| Total continental territory..... | 3,682,125 |

The insular territory, acquired in 1898, as computed by the superintendent of the coast survey May, 1900, is as follows:

| | Sq. Miles. |
|------------------------------|------------|
| Hawaiian Islands..... | 6,740 |
| Porto Rico..... | 3,522 |
| Philippine Islands..... | 122,231 |
| Guam..... | 175 |
| Tutulla, Samoan group..... | 5,731 |
| Total insular territory..... | 138,399 |

FOREIGN TRADE.

This department is designed to set forth opportunities for the extension of the trade abroad of American manufacturers, and to record facts about the rapidly-developing commerce of the South.

AMERICA AND INDIA.

Suggestions of Better Commercial Relations.

In a letter to the Manufacturers' Record Richard Watson of Madras, India, writes:

"Can you not suggest to your manufacturers to have a representative in India? At present most of your iron and steel comes through British agencies and shipped from England to India. A direct trade between American (chiefly United States) ports to India will prove beneficial to American industries and trade in general. I have been suggesting this to the Manufacturer, Philadelphia, and if you will also take up the suggestion you will be rendering a patriotic service to your country, while India will also be greatly benefited.

"The Chinese have brought about greater friendship between Europe and the United States, and after peace has been concluded with China the whole of Asia will be accessible to trade. Take, for instance, the business carried on with India of American petroleum, what great success has been achieved, even though at present there is strong competition with Russian and Borneo oils, yet the American oil held its supremacy over other qualities. There is a notion throughout India that anything American must be good and cheap. I will be glad always to inform you what India's wants are and make such suggestions that will interest your manufacturers."

FOR COTTON EXPORTS.

Interest of Southern Mills in Latin-American Trade.

The Laurel Cotton Mill of Laurel, Miss., has not yet begun operations, but it is hoped by its promoters to be ready in a short time. In a letter to the Manufacturers' Record Mr. W. B. Rogers, secretary and treasurer of the company, writes strongly urging the necessity for regular lines of ships between the United States and South American ports as especially beneficial to Southern cotton mills. He says:

"It was only a few weeks ago that we were talking with a New York agent, who said then that the United States was greatly hampered and almost forced out of the South American market because we had no such means of transportation; that if a bill was sold in that country no exact time of delivery could be promised, and that usually the goods were shipped to England, and from there on a regular line.

"The writer has been wondering recently whether or not someone like yourselves could not advocate an association composed of cotton manufacturers, mill agents and machinery people, each one contributing an amount each year, say, of about two cents per spindle for the cotton mills, which sum would be expended through a general office in advertising and introducing American cotton goods into foreign countries, possibly helping to arrange for regular shipping facilities where it was found necessary.

"Part of this money might also be used in having the cotton sections visited at the proper times and an estimate made and furnished to all members as to the crop conditions and the probabilities of prices which ought to be paid for the raw material by the spinners.

"Should an individual mill agent or machinery party attempt to organize an association along these lines the rest might think there was an axe to grind; but a paper like yours could undertake something of the kind, provided you thought there was any good to be derived from it.

"It strikes us that the sooner we force recognition for our goods among other peoples the better it will be for us. The longer we are content with what we have at home, the longer it will take to have the export possibilities realized by all branches of the cotton line."

Suggestions to Exporters.

Editor Manufacturers' Record:

I presume you heard, through the medium of the Exporters' Association, or rather National Association of Manufacturers, that I am going to start an import and commission business, after having, up to a short time ago, acted as managing director of the European branch in this city of the Garvin Machine Co. of New York.

Principally, I intend to devote my attention to mining, oil-well, agricultural, electrical and other special machinery; furthermore, to hardware and other novelties, provided I can control them for Germany, Russia and adjoining countries. If you happen to come across anything notable in these lines I shall appreciate it greatly if you draw my attention to it. On the other hand, I shall cheerfully name your paper whenever I can do so.

For the benefit of your subscribers, let me urge them to have their export catalogues translated into the languages of the respective countries they are aiming at. Eventually, Spanish will do for South American and German and French for Europe. There are comparatively few people in Europe who understand English at all, and of these only a small, and infinitesimally small, percentage master the language to such an extent that they fully understand all the intricacies and technical terms of an American catalogue. It was my good fortune to see a catalogue of the Jeffrey Manufacturing Co., which I consider in every respect ideal; nicely printed and bound, elegantly translated into French and German—well understood; German which is German, and not Pennsylvania Dutch. Admonish your readers to follow this example, and they will decuple their export figures.

FELIX HAMBURGER,

66 Potsdamer Strasse, Berlin, W.

Trade at Antwerp.

In a letter to the Manufacturers' Record A. Dillen of Antwerp writes that he desires to be the medium for developing there a large trade of American manufacturers. He says: "Manufacturers should send me some goods in consignment so as to enable me to supply at once from stock the goods asked for. Large orders would, of course, be executed and invoiced direct from America. But small orders I must be in a position to supply from here in order to get regular customers for different industrial articles. If required, in order to merit confidence from manufacturers, I would be inclined to deposit a few thousand francs in a well-known bank in the United States and I would send monthly sales accounts with check to the manufacturers who will meet me and help me in this respect."

Mr. Dillen emphasizes the fact that he merely desires to be the manufacturers' representative, and adds that he would be specially interested in india-rubber goods, oils, paints and varnishes, anti-friction metals, general machinists' supplies, wire goods, asphalt ready roofing, asbestos, lubricators, bags and ropes, rivets and

nuts, boiler cleaners, coal and coke, cash registers and coal-tar products.

Cotton for Japan.

Tetsutaro Inumaru, a representative of the Japanese department of agriculture and commerce, who is making a tour of the United States, is in New Orleans studying particularly the opportunities there for the direct shipment of cotton to Japan. The New Orleans Picayune says that since the beginning of the year probably half a dozen of Japan's largest cotton men have been in the city arranging for direct shipments, and that the action of the Japan government in sending a special representative to remain at New Orleans for several months is very significant, and is viewed as a forerunner of an extensive trade with Japan upon the completion of the Nicaraguan canal.

To Add More Vessels.

According to a dispatch from Newport News, Va., the Chesapeake & Ohio Steamship Co. has decided to double the number of vessels in service to Liverpool and London. At present three steamers are running regularly to each port. With the additional vessels a semi-weekly schedule of sailings will be arranged.

It is also stated that the United States Shipping Co. has decided to add four vessels to its fleet between Newport News and Norfolk and continental ports.

Copper-Ore Exports.

In a recent interview Mr. J. A. Naugle, assistant manager of the Sonora Railway Co. of Mexico, states that arrangements are being made to export a large quantity of copper ore from Mexico to Europe by way of New Orleans. It is stated that the product will come from mines controlled by the Rothschilds, and the shipments by way of New Orleans will aggregate fully 40,000 tons. The ore will be loaded in connection with cotton.

Tampa to Honduras.

A dispatch from Tampa, Fla., is to the effect that the Hardee Transportation Co. has been organized to operate a line of vessels between that city and Honduras. The cargoes from Honduras will consist principally of fruit, while it is expected to ship a large quantity of miscellaneous exports by the vessels. It is reported that the company is making arrangements to construct warehouses and docks at Tampa.

American Coal Superior.

According to a statement in a Berlin journal, tests have been recently made in Germany of coal from the West Virginia fields and it is claimed that the result shows that the quality is superior to the best Welsh coal for gas producing. It is believed that this will be one reason for the importation of American soft coal in larger quantities to Germany within the next year.

For Heating and Cooking.

Emil A. Schneider of Copenhagen writes to the Manufacturers' Record for the names of first-class manufacturers of kitchen ranges with hot-water tubes for bathtubs, copper and zinc boiler and other appliances, and of furnaces with hot-air tubes for heating of buildings. A friend of the writer will erect near Copenhagen during the next three years 200 cottages.

Mallory Line Terminals.

A dispatch from Galveston, Texas, states that the Mallory Steamship Co. has decided not only to rebuild the terminals which were destroyed in the recent storm, but that it will enlarge its ware-

houses and piers at an expense of about \$80,000. The company's fleet of vessels has resumed its service between New York and Galveston.

Coal for Export.

The steamship Glenray recently arrived at Norfolk to load 4000 tons of coal for the Argentine Republic. Another vessel has been chartered to carry 4000 tons of coal to Marseilles, France. Messrs. Lamb & Arral have been appointed agents for the Tweedie Trading Co. of New York, which ordered the vessels to Norfolk for cargoes.

Galveston Cargoes.

The steamship Elswick Lodge recently arrived in Galveston on her first voyage. The vessel is of 2300 tons register, and loaded miscellaneous cargo for Bremen.

The Head Line of steamships has included Galveston in its list of American ports, and the first vessel of the service this season recently loaded cargo for a European port.

Notes.

W. J. Gunning of Sydney, N. S. W., writes to the Manufacturers' Record that there is a considerable trade there in cotton piece-goods of all kinds.

The export facilities at Galveston have been restored to such a degree since the recent storm that a vessel recently cleared with a cargo of cotton and wheat valued at \$1,281,000.

A recent order received in Pittsburg was for 12,000 tons of steel rails, which will be shipped to Holland. The order was given by the Dutch government through its American representatives.

A dispatch from New Orleans states that arrangements are being made to ship from that city a cargo of 2000 tons of steel rails to Genoa, Italy. The rails will be transported to the city over the Illinois Central Railroad.

The vessels chartered for the fleet of the Mexican-American Steamship Co., which is to operate between New Orleans and Mexican ports, include the Themis and the Atlas. They are of 2300 tons and 1700 tons register, respectively.

The Southern Coal & Lumber Co. has recently completed a wharf at Jacksonville, Fla., which will have a capacity for 4000 tons. It is 300 feet in length and 85 feet in width, with a depth of water sufficient to float vessels drawing seventeen feet.

In a letter to the Manufacturers' Record F. Bishop & Co. of Canton and Wenchow, China, says that a firm in those two cities solicits the agency for dry goods, notions, toys, novelties of all descriptions, paints, oils, window glass, aniline dyes, paper and lead pencils.

A New Orleans dispatch states that two representatives of the Japanese government have recently been in that city investigating the quantity and quality of cotton exports. It is stated that the quantity sent from the South to Japan next year will be largely increased as a result of this investigation.

United States Consul James C. McNally of Guatemala says that if Americans desire the trade of Guatemala they must show their goods and demonstrate their merit, give longer credits, pack well and enter to the wants of the people, who by universal custom wear certain styles and qualities, and will not change. American houses, by reason of geographical advantage as well as superior quality of goods, should have a monopoly of this market. This can readily be accomplished by complying with the conditions mentioned.

RAILROADS.

[A complete record of all new railroad building in the South will be found in the Construction Department.]

Progress of the K. C., M. & O.

Mr. W. W. Sylvester, vice-president of the Kansas City, Mexico & Orient Railroad, of which Mr. A. E. Stilwell is at the head, recently made the following statement as to the progress of the enterprise:

"We have about 400 miles built or under construction. Three hundred is from Wichita, Kans., to Red river; thirty miles of work is done from Sweetwater, Texas, south, and sixty-five miles in Mexico, commencing at Port Stilwell, running northeast to El Furte. Rails will be laid between Harper and Anthony, Kans., by January. Eight miles of rails are laid from Sweetwater south. The people of Sweetwater and San Angelo gave over \$100,000 to the construction company, and Haskell offers as much for the road. Traffic arrangements have been made with the Chicago, Milwaukee & St. Paul that bring Chicago nearer the Pacific over the Oriental line, when completed, than Kansas City now is over any other line. An interesting fact is that the time from Topolobampo to Kansas City over our road will be forty-five hours. The best time now made between these places is seventy-two hours. It will be 550 miles shorter to the coast than any other route, and will save over 700 miles of water passage to Hong Kong, Honolulu and other Oriental places. On shipments to our new possessions over 1300 miles will be saved on both land and sea; so you see our route will be a desirable one. Inside of two and a-half years we will be running a line of steamers to the Philippines, Hong Kong and Honolulu. Our concessions and subsidies with the Mexican government are all complete, and the line will be in operation inside of eighteen months, except 100 miles of road over the Sierra Madre mountains, in Mexico, which will take twelve months longer."

Annual Elections.

At the annual meeting of the Atlanta & West Point Railroad Co. Mr. George C. Smith was elected president and general manager, and H. M. Abnett, secretary and treasurer.

At the annual meeting of the Georgia Southern & Florida Railway Co. the present officers were re-elected. Samuel Spencer is president; William Checkley Shaw of Macon, Ga., vice-president, and C. B. Smith of Macon, secretary and treasurer.

At the annual meeting of the Columbia, Newberry & Laurens Railroad Co. W. G. Childs of Columbia was re-elected president and general manager. This road is operated as a section of the Seaboard system.

The directors of the Tennessee Central Railroad Co. at their recent annual meeting re-elected Jere Baxter of Nashville, president; N. C. Chapman and E. F. Goltz, vice-presidents, and W. E. Eastman, secretary; E. A. Faulhaber of St. Louis, treasurer, and L. C. Gunn, general freight and passenger agent.

A Valuable Publication.

"Industrial Opportunities" is the title of a description of sections along the Baltimore & Ohio Railroad, which is very attractive. It is hardly necessary to say that this railroad system passes through a section of Maryland and West Virginia which is abundant not only in mineral resources, but includes a very large area of the best agricultural land as well as graz-

ing territory. An extensive tonnage of the soft coal which is now being exported in such quantities comes directly from along the Baltimore & Ohio and its tributaries, while iron ore containing a high percentage of the pure metal is found in many deposits. A feature about the work, which is published under the supervision of Mr. W. W. Wool, industrial agent of the Baltimore & Ohio, is the large amount of practical information in the way of statistics which it contains, as well as many excellent illustrations showing what has been accomplished and is being accomplished in agriculture, mining and general manufacturing.

Street Railway Consolidation.

It is announced that arrangements have been made to consolidate the Birmingham Railway & Electric Co. with the Birmingham Traction Co. and the Birmingham, Powderly & Bessemer Street Railway. The title of the combined company will be the Birmingham Railway, Light & Power Co. The consolidated company will issue \$3,500,000 of bonds, it is stated. Of these \$1,750,000 will be placed in the hands of trustees. The remainder, \$1,750,000, will be expended in improvements of the street-railway system.

In Prosperous Condition.

The annual report of the Kansas City, Fort Scott & Memphis Railroad, just issued, shows an increase of \$345,000 in net earnings, or 25½ per cent. A surplus for the year is left of \$386,000. The report of the Kansas City, Memphis & Birmingham, operated in connection with the Kansas City, Fort Scott & Memphis, shows an increase in gross earnings of \$270,000, or 19 per cent., and \$157,000, or 42 per cent., in net receipts. Upon this line \$115,000 was spent for various improvements during the same period.

New Rolling Stock.

The Plant Railway & Steamship Co. has recently ordered 150 box cars from the Georgia Car Manufacturing Co. of Savannah, and fifty flat cars from the Southern Car & Foundry Co. of Gadsden, Ala. The orders were placed in the South on account of the satisfaction which the manufacturing companies have given in filling previous orders for rolling stock. The Plant Company has recently received eleven new locomotives from the works at Providence, R. I.

Little Rock to Springfield.

According to a dispatch from Little Rock, Ark., surveys have been completed for about 200 miles along the route between Little Rock and Springfield, Mo. The promoting company is called the Little Rock Northern Railroad Co., and it is stated has expended about \$50,000 in the surveys. S. E. Reaugh is acting as engineer for the company. The line, if built, will traverse the extensive deposits of minerals in Northern Arkansas and Southern Missouri.

New Line in South Carolina.

The railroad between Sumter and Camden, S. C., which has been under construction for some time past, has been completed and opened for operation. It is twenty-seven and one-half miles long, and penetrates one of the most productive portions of the State. With the new road the city of Camden has three different systems, the Seaboard Air Line and the South Carolina & Georgia Railroad being the others. The president of the company is Thomas Wilson.

Inspecting the Seaboard.

A party of Baltimore financiers recently made a trip over the Seaboard Air Line.

They visited the principal cities along the line, and were given ample opportunity to investigate the resources of the country reached by the main line and branches. The various Seaboard terminals at Savannah and Portsmouth were also visited. The party was in charge of Mr. William B. Oliver of the firm of Middendorf, Oliver & Co. of Baltimore.

Railroad Notes.

D. B. Cliffe has been re-elected president of the Nashville & Decatur Railroad Co., and Samuel Seay, secretary.

The Virginia Conduit Railway Co. has been organized at Richmond by electing E. A. Hoen, president; J. C. Robertson, vice-president, and W. L. Jenkins, general manager.

Recent shipments of crossties for railroads from Wilmington, N. C., have been very large. The ties are cut in North and South Carolina and brought to Wilmington by rail to be loaded on shipboard.

It is reported that a company is being formed, with \$5,000,000 capital stock, to enter into the express business in the South on a number of the principal railroad lines, and that its headquarters will be at Savannah, Ga.

It is announced that Henry Wood has resigned his position as general manager of the Choctaw, Oklahoma & Gulf Railroad Co. In future these duties will be attended to by President Gowen in connection with his present position.

The Mobile & Ohio Railroad system has been divided into two divisions, the St. Louis and the Mobile. Mr. H. W. Clarke has been appointed superintendent of the St. Louis division, and Mr. J. D. Clarke, superintendent of the Mobile division.

A dispatch from Nashville, Tenn., states that an agreement has been made between the Nashville, Chattanooga & St. Louis, the Nashville & Knoxville and the Tennessee Central railway companies for an interchange of passenger and freight business, which practically forms a new route to Nashville from Cincinnati.

Electricity in Asuncion.

The Paraguay Development Co., incorporated with \$500,000 capital under the laws of New Jersey and having headquarters in Philadelphia, has been granted by the Paraguayan government a concession to light the city of Asuncion and to run tramcars by electric-power. The concession is for twenty-five years, and the light and traction service must be open to the public within two years from August 30, 1900. The representative of the company in Paraguay is Mr. Carlos R. Santos.

The steamship Inchdune, which has just completed her first trip across the Atlantic, will take 2500 tons of steel rails to Calcutta, India, from Sparrow's Point. The Inchdune is 360 feet in length, 48 feet beam, and was built for Messrs. Hamilton, Frazier & Co. The steamship Amara has sailed for Calcutta with 1800 tons of rails, also loaded at Sparrow's Point.

The first steamship to take a complete cargo of coal from the Baltimore & Ohio pier at Curtis Bay is the Amesti, which is now consigned to Naples, Italy. Three sailing vessels have also been chartered to load at Baltimore for Italian ports.

The sales in the Joplin (Mo.) district during the week ended October 20 were 9,012,210 pounds of zinc ore and 1,116,760 pounds of lead ore, valued in all at \$134,109.

Between September 10 and September 29 Governor Sayers of Texas received \$670,326 for the relief of Galveston.

TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the Manufacturers' Record. We shall be glad to have such matter at all times, and also to have any general discussion relating to cotton matters.

ROUND BALE A SAVER.

One Means for Overcoming Waste in Cotton Mills.

Mr. E. W. Thomas of the Tremont and Suffolk Mills, Lowell, Mass., who has made a careful study of the waste in cotton mills and its bearing on competition, has given to the New England Cotton Manufacturers' Association at its last two meetings the result of his researches. In a paper read before the Boston meeting of the association last April he said: "In one large manufacturing concern, which used in 1899 71,708 bales of cotton, the gross pounds purchased were 35,987,928 pounds, of which hoops aggregated 531,960 pounds, sacking and ropes 915,349 pounds, seed 1,901,276 pounds, dust, etc., 210,056 pounds, or 3,558,641 pounds, or 49.62 pounds per bale"—nearly 10 per cent. "With reasonably clean cotton and proper covering," Mr. Thomas added, "the projectors of the round-bale system agree to give, and have in fact accomplished, a very great saving."

Further investigation has forced Mr. Thomas to the conclusion that unless New England spinners address themselves assiduously to the reduction of waste they may expect to see their industry transplanted in the South. This phase of the subject he discussed in a paper read before the association last week at its meeting in Washington. In the course of his remarks he said that a more careful and painstaking management is necessary if New England mills are to maintain their place in the world's markets. Last what he had just said he misunderstood he added: "I do not infer that our mills are grossly mismanaged, by any means, but what I do mean is that we must give more attention to savings effected by close watching and the following up of many matters that, by reason of our being enabled to possibly pay fair dividends to our stockholders, we have not given the attention that might have been shown. We have had, since the industry was inception, to bear one burden imposed upon us for which our predecessors were in a measure to blame for allowing to exist, and that is, the shameful way we have been obliged to receive our raw material. The loss of waste from improper ginning, grading, packing and shipping has cost us millions of dollars. Some meritorious effort has been made of late by ginning companies to remedy this and give to the manufacturer cleaner and better-packed cotton. Many of us have tried, and some are continuing the use of the round bale, so-called, and found the loss from false packing, sand, hoops and sacking to be materially in favor of the round bale."

But spinners should not be content with the savings effected by the use of the new bale. Mr. Thomas said that incidental to the operation of the various machines at the mills there is a large percentage of waste, some of which is reworked by some mills and by others sold. If, he said, New England mills are to keep abreast of the times they must devote as much attention to the reworking of waste as is paid to this subject in con-

tinental countries, where goods of superior quality of the kind are produced out of the refuse cast aside by our mills. During the twelve months ending in June of this year over 25,000,000 pounds of waste were sent out of this country, about twice as much as was exported the year before.

Mr. Thomas pointed out that a saving of 1 per cent. in waste is practically five pounds per bale, which, at ten cents per pound, are worth fifty cents, and may, if put into yarn or cloth, be worth all the way from fifty cents to two dollars or more, according to the selling price of the finished material. Mr. Thomas thought it fair to assume that in the ordinary cotton mill, on medium counts, 88 per cent. of cotton purchased is sold as yarn or cloth. He believed it possible, "by the use of round-baled cotton and the conversion of practically all the waste made into some salable goods," to secure from 92 to 95 per cent. net of goods per pound of cotton.

Apropos of Mr. Thomas' remarks, the conclusions of the treasurer of one of the leading cotton mills in Massachusetts, stated in the Boston News Bureau Summary of October 19, is interesting. This gentleman said that his mill had used during the last twelve months over 30,000 roundlap bales of cotton put up by the American Cotton Co., and that "in our estimation this is the best method of baling cotton." "The economy in the use of roundlap bales," the treasurer added, "is in the character of the bale, which does away with labor in the picking-room at the mill, and the fact that we get practically 100 cents' worth of cotton for every dollar paid out. The square bale, in its journey from the South to the mill at the North, will lose on an average at least two and three-quarters pounds per bale, as compared with a loss of not over one-quarter of a pound in the roundlap bale. On the whole, we believe we derive from three-sixteenths to one-quarter cent per pound benefit through the use of the roundlap bale from the time the cotton is shipped until it is turned out as yarn in the mill."

NOT A MONOPOLY.

Methods of Business of the American Cotton Co.

In his speech at Ann Arbor, Mich., Hon. William Jennings Bryan showed conclusively that the American Cotton Co. is not a monopoly. This is true not only with reference to the cotton crop as a whole, but also of that part which is put up in round bales, several other companies being engaged in the manufacture and introduction of round-bale presses. The American Cotton Co. has never attempted to absorb any of these, but openly competes with them. It does not even control the handling of roundlap bales, but planters and ginnerers are free to sell them in the open market at any time and to any buyer.

In his Madison Square Garden speech Mr. Bryan said: "Our fight is not against patent law that gives a man a chance to make something out of his own genius." Mr. Bryan does well to recall this country's obligation to the foresight of the framers of the Constitution in providing for the granting of patents, which has made America the home of invention. To this provision the South owes the cotton gin that made possible its greatest industry, and the processes which converted cottonseed, long a waste product, into a source of wealth. Without the encouragement of patent laws men would not have devoted years of labor and vast sums of money to the development of the roundlap-baling press, and the South would have been deprived of an invention

that is fast coming to be recognized as only second in importance to the cotton gin.

The Manufacturers' Record, which for fifteen years has unceasingly advocated improvement in the baling and handling of the cotton crop, is glad to commend Mr. Bryan's remarks on this point (for there is not much else in his speech which we can commend) to those reactionaries in the South who, either from self-interest or ignorance, oppose progress and insist that this country's greatest money crop and chief article of export shall continue to be marketed in the old shiftless, wasteful and expensive way that has come down from a bygone age.

For Voluntary Arbitration.

Commenting upon the article by Mr. Herman Justi recently published in the Manufacturers' Record touching the subject of voluntary arbitration between employers and employees, Mr. T. I. Hickman, president of the Graniteville Manufacturing Co. of Augusta, Ga., writes:

"I have read his article with a great deal of interest, and agree with him on many points. I am unalterably opposed to compulsory arbitration under any circumstances, and feel sure that the decisions of such arbitrators are usually tinged with politics, and injustice often done by them to labor or manufacturer or capitalist. Such a method as Mr. Justi suggests of voluntary arbitration is not only feasible, but should be satisfactory to both sides of any controversy. I am candid in saying, however, that I think the least arbitration between manufacturers and their employees the better for all parties concerned. Labor that is justly treated seldom has complaints, and unjust complaints of laborers are seldom abated."

Raleigh (N. C.) Hosiery Mill Enlarges.

The Raleigh Hosiery Co. of Raleigh, N. C., has decided upon an extensive enlargement of its knitting plant. Contract has been awarded to Charles Pearson for the erection of a new building, to which the present machinery will be removed. The structure is to be three stories high, 40x100 feet, and there will also be built a 30x45-foot house in which to install the boiler and engine. Contracts have also been awarded for the drilling of an artesian well and the construction of a 10,000-gallon steel tank on a steel superstructure for fire protection. New machinery will be installed when the building is completed to introduce the production of the finest grades of hosiery for women. A dye plant will also be installed. The company now produces half-hose, having a capacity of 300 dozen pairs and employing 100 hands. The addition will mean the engagement of fifty more operatives.

\$225,000 Yarn and Bag Mill.

In August last announcement was made of the incorporation of the Royal Bag & Yarn Manufacturing Co. at Charleston, S. C., for the purposes indicated by its title. During the past week the stockholders held a meeting and formally organized, electing George A. Wagener, president; James M. Seignious, vice-president, and George Lunz, secretary-treasurer. The directors are Messrs. George A. Wagener, C. H. Drayton, F. W. Wagener and C. W. Seignious. The company is now having plans prepared for its plant, which is to contain 5000 spindles and 125 bag looms. The raw cotton will be made into yarn and then manufactured into bags for seed, flour, grits, etc. The machinery has practically been engaged. The capital to be invested is \$225,000.

An \$8000 Knitting Mill.

The knitting company recently reported as proposed at Talladega, Ala., has permanently organized, with the title of Talladega Hosiery Mills. P. S. Williams has been chosen president, and W. T. Billue, secretary-treasurer. The company will erect at once a building 50x100 feet in size and install knitting machinery for a daily production of 150 dozen pairs of hose and half-hose, medium block goods. The investment will be \$8000. W. T. Billue will also be general manager, and will visit Philadelphia to contract for the required knitters.

The Cotton Movement.

In his report for October 19 Col. Henry G. Hester of the New Orleans Cotton Exchange shows that the amount of cotton brought into sight during forty-nine days of the present season was 2,226,440 bales, an increase of 780 bales over the amount brought into sight during the same period last season; exports were 994,757 bales, an increase of 48,425 bales; takings by Northern spinners were 172,107 bales, a decrease of 125,592 bales; by Southern spinners 212,540 bales, a decrease of 14,719 bales.

Textile Notes.

The Randleman (N. C.) Hosiery Mills will enlarge its building and add new machinery.

J. E. Clift of Thomson, Ga., intends to establish a knitting mill; suitable building has been bought for the purpose.

Messrs. S. N. Wilcox, F. S. Wilcox and E. C. Wilcox of Lynn, N. C., have incorporated the Tryon Hosiery Mill, with capital of \$50,000.

The Eufaula (Ala.) Cotton Mills, mentioned last week as contracting for new power-house, has also added 1100 spindles and thirty-two looms; previous equipment was 11,500 spindles and 321 looms.

The Borden Manufacturing Co. of Goldsboro, N. C., is rapidly completing its fine cotton-yarn mill. The two-story 75x208-foot building will be filled with 5000 ring spindles. The investment will be \$100,000.

J. E. Wiley (colored) of Dallas, Texas, states that architects are now planning his proposed 5000-spindle cotton mill, recently reported. It has not been determined yet whether steam or electricity will be used for power purposes.

The Shelby (N. C.) Cotton Mills Co. will purchase and install 4000 additional spindles in its cotton factory. This is one of the new mills of the past year, and its initial capacity was 5000 spindles. The improvement will entail an expenditure of about \$60,000.

The Glenn-Lowery Manufacturing Co. of Whitmires, S. C., held a stockholders' meeting last week, at which it was decided to increase capital from \$250,000 to \$500,000. This corporation was reported some months ago as chartered to build a 15,000-spindle mill at Whitmires, S. C.

The Littleton (N. C.) Hosiery Mill has been incorporated, with capital stock of \$20,000, by L. Vinson and associates. This company is the one lately noted as formed to establish a mill for producing half-hose. S. Johnston is president; W. L. Powell, vice-president, and L. Vinson, secretary.

The Lancaster (S. C.) Cotton Mills has awarded contract for a building four stories high, 125x360 feet in diameter. F. C. Thompson & Bros. of Columbia, S. C., have the contract. The new building will be filled with 50,000 spindles, the addition which it was announced several months ago the company had decided

upon. About \$850,000 will be the cost of the improvements. The new looms will number 1500.

The Indianapolis Power Co. has contracted with Ladshaw & Ladshaw of Spartanburg, S. C., for the development of the Landsford water-power on the Catawba river. It is said that 10,000 horsepower is available. The power is to be furnished for operating cotton factories and other industries.

The Melrose Knitting Mills of Raleigh, N. C., is installing the machinery for its plant, the building having been completed a week ago. The mill is three stories high, 44x105 feet, to have knitters for a daily capacity of 300 dozen underwear garments. The capital is \$25,000. F. T. Ward is president, and John W. Hardon, Jr., secretary.

The Monaghan Mills, Greenville, S. C., is nearing completion. This company, capitalized at \$500,000, was fully announced previously in this department. Its plant will have an equipment of 25,000 ring spindles, 800 looms and complement to produce print cloths and 60-inch sheeting. Operations are expected to commence within the month.

The Osceola Business League is endeavoring to arrange for the location of a cotton mill at Osceola, Ark. The town of Osceola possesses important advantages that will recommend it to projectors of cotton factories in the South. These advantages include ample railroad facilities and supply of cotton, as 30,000 bales are grown and marketed at Osceola.

The Schofield Manufacturing Co., Macon, Ga., has completed its knitting mill, and is about to commence operations. The plant is provided with machinery for a daily production of 300 dozen suits of men's ribbed underwear, and 150 hands will be employed. The building used has been erected by the company, and has all modern improvements, such as sprinkler system, dyehouse and equipment, etc. The capital is \$35,000, and F. O. Schofield is president.

The Alexander City (Ala.) Cotton Mills, reported recently as organized, etc., has purchased for \$5000 250 acres of land as site for the proposed plant. As previously stated, the equipment will number 10,000 spindles, but it is intended to construct the buildings so that 10,000 spindles can be added at a minimum cost, and probably a knitting mill will also be installed in connection. The initial investment will be \$200,000. D. L. Lewis of Sycamore, Ala., is the active promoter of this mill.

Messrs. J. W. McMillan & Son of Milledgeville, Ga., have commenced work on their contract, mentioned last week, for the construction of a building for the newly-organized Middle Georgia Cotton Mills at Eatonton, Ga. It will require 1,500,000 brick to erect the four-story structure, which will have room for 12,000 spindles and power plant to run that number. However, the initial equipment, as reported last week, will be only 5000 spindles and 125 looms for producing sheetings. The capital stock is \$100,000.

QUOTATIONS OF COTTON YARNS.

By Buckingham & Paulson, New York, Philadelphia and Chicago, October 22.

| | |
|--------------------------------|---------------|
| No. 10s-1 and 12s-1 warps..... | 15 1/2 @ 16 |
| No. 14s-1 warps..... | 16 1/2 @ 17 |
| No. 16s-1 warps..... | 17 @ 18 |
| No. 20s-1 warps..... | 18 1/2 @ 19 |
| No. 24s-1 warps..... | 19 @ 20 |
| No. 28s-1 warps..... | 20 1/2 @ 21 |
| No. 32s-1 warps..... | 21 1/2 @ 22 |
| No. 36s-1 warps..... | 22 1/2 @ 23 |
| No. 40s-1 warps..... | 23 1/2 @ 24 |
| No. 44s-1 warps..... | 24 1/2 @ 25 |
| No. 48s-1 warps..... | 25 1/2 @ 26 |
| No. 52s-1 warps..... | 26 1/2 @ 27 |
| No. 56s-1 warps..... | 27 1/2 @ 28 |
| No. 60s-1 warps..... | 28 1/2 @ 29 |
| No. 64s-1 warps..... | 29 1/2 @ 30 |
| No. 68s-1 warps..... | 30 1/2 @ 31 |
| No. 72s-1 warps..... | 31 1/2 @ 32 |
| No. 76s-1 warps..... | 32 1/2 @ 33 |
| No. 80s-1 warps..... | 33 1/2 @ 34 |
| No. 84s-1 warps..... | 34 1/2 @ 35 |
| No. 88s-1 warps..... | 35 1/2 @ 36 |
| No. 92s-1 warps..... | 36 1/2 @ 37 |
| No. 96s-1 warps..... | 37 1/2 @ 38 |
| No. 100s-1 warps..... | 38 1/2 @ 39 |
| No. 104s-1 warps..... | 39 1/2 @ 40 |
| No. 108s-1 warps..... | 40 1/2 @ 41 |
| No. 112s-1 warps..... | 41 1/2 @ 42 |
| No. 116s-1 warps..... | 42 1/2 @ 43 |
| No. 120s-1 warps..... | 43 1/2 @ 44 |
| No. 124s-1 warps..... | 44 1/2 @ 45 |
| No. 128s-1 warps..... | 45 1/2 @ 46 |
| No. 132s-1 warps..... | 46 1/2 @ 47 |
| No. 136s-1 warps..... | 47 1/2 @ 48 |
| No. 140s-1 warps..... | 48 1/2 @ 49 |
| No. 144s-1 warps..... | 49 1/2 @ 50 |
| No. 148s-1 warps..... | 50 1/2 @ 51 |
| No. 152s-1 warps..... | 51 1/2 @ 52 |
| No. 156s-1 warps..... | 52 1/2 @ 53 |
| No. 160s-1 warps..... | 53 1/2 @ 54 |
| No. 164s-1 warps..... | 54 1/2 @ 55 |
| No. 168s-1 warps..... | 55 1/2 @ 56 |
| No. 172s-1 warps..... | 56 1/2 @ 57 |
| No. 176s-1 warps..... | 57 1/2 @ 58 |
| No. 180s-1 warps..... | 58 1/2 @ 59 |
| No. 184s-1 warps..... | 59 1/2 @ 60 |
| No. 188s-1 warps..... | 60 1/2 @ 61 |
| No. 192s-1 warps..... | 61 1/2 @ 62 |
| No. 196s-1 warps..... | 62 1/2 @ 63 |
| No. 200s-1 warps..... | 63 1/2 @ 64 |
| No. 204s-1 warps..... | 64 1/2 @ 65 |
| No. 208s-1 warps..... | 65 1/2 @ 66 |
| No. 212s-1 warps..... | 66 1/2 @ 67 |
| No. 216s-1 warps..... | 67 1/2 @ 68 |
| No. 220s-1 warps..... | 68 1/2 @ 69 |
| No. 224s-1 warps..... | 69 1/2 @ 70 |
| No. 228s-1 warps..... | 70 1/2 @ 71 |
| No. 232s-1 warps..... | 71 1/2 @ 72 |
| No. 236s-1 warps..... | 72 1/2 @ 73 |
| No. 240s-1 warps..... | 73 1/2 @ 74 |
| No. 244s-1 warps..... | 74 1/2 @ 75 |
| No. 248s-1 warps..... | 75 1/2 @ 76 |
| No. 252s-1 warps..... | 76 1/2 @ 77 |
| No. 256s-1 warps..... | 77 1/2 @ 78 |
| No. 260s-1 warps..... | 78 1/2 @ 79 |
| No. 264s-1 warps..... | 79 1/2 @ 80 |
| No. 268s-1 warps..... | 80 1/2 @ 81 |
| No. 272s-1 warps..... | 81 1/2 @ 82 |
| No. 276s-1 warps..... | 82 1/2 @ 83 |
| No. 280s-1 warps..... | 83 1/2 @ 84 |
| No. 284s-1 warps..... | 84 1/2 @ 85 |
| No. 288s-1 warps..... | 85 1/2 @ 86 |
| No. 292s-1 warps..... | 86 1/2 @ 87 |
| No. 296s-1 warps..... | 87 1/2 @ 88 |
| No. 300s-1 warps..... | 88 1/2 @ 89 |
| No. 304s-1 warps..... | 89 1/2 @ 90 |
| No. 308s-1 warps..... | 90 1/2 @ 91 |
| No. 312s-1 warps..... | 91 1/2 @ 92 |
| No. 316s-1 warps..... | 92 1/2 @ 93 |
| No. 320s-1 warps..... | 93 1/2 @ 94 |
| No. 324s-1 warps..... | 94 1/2 @ 95 |
| No. 328s-1 warps..... | 95 1/2 @ 96 |
| No. 332s-1 warps..... | 96 1/2 @ 97 |
| No. 336s-1 warps..... | 97 1/2 @ 98 |
| No. 340s-1 warps..... | 98 1/2 @ 99 |
| No. 344s-1 warps..... | 99 1/2 @ 100 |
| No. 348s-1 warps..... | 100 1/2 @ 101 |
| No. 352s-1 warps..... | 101 1/2 @ 102 |
| No. 356s-1 warps..... | 102 1/2 @ 103 |
| No. 360s-1 warps..... | 103 1/2 @ 104 |
| No. 364s-1 warps..... | 104 1/2 @ 105 |
| No. 368s-1 warps..... | 105 1/2 @ 106 |
| No. 372s-1 warps..... | 106 1/2 @ 107 |
| No. 376s-1 warps..... | 107 1/2 @ 108 |
| No. 380s-1 warps..... | 108 1/2 @ 109 |
| No. 384s-1 warps..... | 109 1/2 @ 110 |
| No. 388s-1 warps..... | 110 1/2 @ 111 |
| No. 392s-1 warps..... | 111 1/2 @ 112 |
| No. 396s-1 warps..... | 112 1/2 @ 113 |
| No. 400s-1 warps..... | 113 1/2 @ 114 |
| No. 404s-1 warps..... | 114 1/2 @ 115 |
| No. 408s-1 warps..... | 115 1/2 @ 116 |
| No. 412s-1 warps..... | 116 1/2 @ 117 |
| No. 416s-1 warps..... | 117 1/2 @ 118 |
| No. 420s-1 warps..... | 118 1/2 @ 119 |
| No. 424s-1 warps..... | 119 1/2 @ 120 |
| No. 428s-1 warps..... | 120 1/2 @ 121 |
| No. 432s-1 warps..... | 121 1/2 @ 122 |
| No. 436s-1 warps..... | 122 1/2 @ 123 |
| No. 440s-1 warps..... | 123 1/2 @ 124 |
| No. 444s-1 warps..... | 124 1/2 @ 125 |
| No. 448s-1 warps..... | 125 1/2 @ 126 |
| No. 452s-1 warps..... | 126 1/2 @ 127 |
| No. 456s-1 warps..... | 127 1/2 @ 128 |
| No. 460s-1 warps..... | 128 1/2 @ 129 |
| No. 464s-1 warps..... | 129 1/2 @ 130 |
| No. 468s-1 warps..... | 130 1/2 @ 131 |
| No. 472s-1 warps..... | 131 1/2 @ 132 |
| No. 476s-1 warps..... | 132 1/2 @ 133 |
| No. 480s-1 warps..... | 133 1/2 @ 134 |
| No. 484s-1 warps..... | 134 1/2 @ 135 |
| No. 488s-1 warps..... | 135 1/2 @ 136 |
| No. 492s-1 warps..... | 136 1/2 @ 137 |
| No. 496s-1 warps..... | 137 1/2 @ 138 |
| No. 500s-1 warps..... | 138 1/2 @ 139 |
| No. 504s-1 warps..... | 139 1/2 @ 140 |
| No. 508s-1 warps..... | 140 1/2 @ 141 |
| No. 512s-1 warps..... | 141 1/2 @ 142 |
| No. 516s-1 warps..... | 142 1/2 @ 143 |
| No. 520s-1 warps..... | 143 1/2 @ 144 |
| No. 524s-1 warps..... | 144 1/2 @ 145 |
| No. 528s-1 warps..... | 145 1/2 @ 146 |
| No. 532s-1 warps..... | 146 1/2 @ 147 |
| No. 536s-1 warps..... | 147 1/2 @ 148 |
| No. 540s-1 warps..... | 148 1/2 @ 149 |
| No. 544s-1 warps..... | 149 1/2 @ 150 |
| No. 548s-1 warps..... | 150 1/2 @ 151 |
| No. 552s-1 warps..... | 151 1/2 @ 152 |
| No. 556s-1 warps..... | 152 1/2 @ 153 |
| No. 560s-1 warps..... | 153 1/2 @ 154 |
| No. 564s-1 warps..... | 154 1/2 @ 155 |
| No. 568s-1 warps..... | 155 1/2 @ 156 |
| No. 572s-1 warps..... | 156 1/2 @ 157 |
| No. 576s-1 warps..... | 157 1/2 @ 158 |
| No. 580s-1 warps..... | 158 1/2 @ 159 |
| No. 584s-1 warps..... | 159 1/2 @ 160 |
| No. 588s-1 warps..... | 160 1/2 @ 161 |
| No. 592s-1 warps..... | 161 1/2 @ 162 |
| No. 596s-1 warps..... | 162 1/2 @ 163 |
| No. 600s-1 warps..... | 163 1/2 @ 164 |
| No. 604s-1 warps..... | 164 1/2 @ 165 |
| No. 608s-1 warps..... | 165 1/2 @ 166 |
| No. 612s-1 warps..... | 166 1/2 @ 167 |
| No. 616s-1 warps..... | 167 1/2 @ 168 |
| No. 620s-1 warps..... | 168 1/2 @ 169 |
| No. 624s-1 warps..... | 169 1/2 @ 170 |
| No. 628s-1 warps..... | 170 1/2 @ 171 |
| No. 632s-1 warps..... | 171 1/2 @ 172 |
| No. 636s-1 warps..... | 172 1/2 @ 173 |
| No. 640s-1 warps..... | 173 1/2 @ 174 |
| No. 644s-1 warps..... | 174 1/2 @ 175 |
| No. 648s-1 warps..... | 175 1/2 @ 176 |
| No. 652s-1 warps..... | 176 1/2 @ 177 |
| No. 656s-1 warps..... | 177 1/2 @ 178 |
| No. 660s-1 warps..... | 178 1/2 @ 179 |
| No. 664s-1 warps..... | 179 1/2 @ 180 |
| No. 668s-1 warps..... | 180 1/2 @ 181 |
| No. 672s-1 warps..... | 181 1/2 @ 182 |
| No. 676s-1 warps..... | 182 1/2 @ 183 |
| No. 680s-1 warps..... | 183 1/2 @ 184 |
| No. 684s-1 warps..... | 184 1/2 @ 185 |
| No. 688s-1 warps..... | 185 1/2 @ 186 |
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| No. 704s-1 warps..... | 189 1/2 @ 190 |
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| No. 712s-1 warps..... | 191 1/2 @ 192 |
| No. 716s-1 warps..... | 192 1/2 @ 193 |
| No. 720s-1 warps..... | 193 1/2 @ 194 |
| No. 724s-1 warps..... | 194 1/2 @ 195 |
| No. 728s-1 warps..... | 195 1/2 @ 196 |
| No. 732s-1 warps..... | 196 1/2 @ 197 |
| No. 736s-1 warps..... | 197 1/2 @ 198 |
| No. 740s-1 warps..... | 198 1/2 @ 199 |
| No. 744s-1 warps..... | 199 1/2 @ 200 |
| No. 748s-1 warps..... | 200 1/2 @ 201 |
| No. 752s-1 warps..... | 201 1/2 @ 202 |
| No. 756s-1 warps..... | 202 1/2 @ 203 |
| No. 760s-1 warps..... | 203 1/2 @ 204 |
| No. 764s-1 warps..... | 204 1/2 @ 205 |
| No. 768s-1 warps..... | 205 1/2 @ 206 |
| No. 772s-1 warps..... | 206 1/2 @ 207 |
| No. 776s-1 warps..... | 207 1/2 @ 208 |
| No. 780s-1 warps..... | 208 1/2 @ 209 |
| No. 784s-1 warps..... | 209 1/2 @ 210 |
| No. 788s-1 warps..... | 210 1/2 @ 211 |
| No. 792s-1 warps..... | 211 1/2 @ 212 |
| No. 796s-1 warps..... | 212 1/2 @ 213 |
| No. 800s-1 warps..... | 213 1/2 @ 214 |
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| No. 808s-1 warps..... | 215 1/2 @ 216 |
| No. 812s-1 warps..... | 216 1/2 @ 217 |
| No. 816s-1 warps..... | 217 1/2 @ 218 |
| No. 820s-1 warps..... | 218 1/2 @ 219 |
| No. 824s-1 warps..... | 219 1/2 @ 220 |
| No. 828s-1 warps..... | 220 1/2 @ 221 |
| No. 832s-1 warps..... | 221 1/2 @ 222 |
| No. 836s-1 warps..... | 222 1/2 @ 223 |
| No. 840s-1 warps..... | 223 1/2 @ 224 |
| No. 844s-1 warps..... | 224 1/2 @ 225 |
| No. 848s-1 warps..... | 225 1/2 @ 226 |
| No. 852s-1 warps..... | 226 1/2 @ 227 |
| No. 856s-1 warps..... | 227 1/2 @ 228 |
| No. 860s-1 warps..... | 228 1/2 @ 229 |
| No. 864s-1 warps..... | 229 1/2 @ 230 |
| No. 868s-1 warps..... | 230 1/2 @ 231 |
| No. 872s-1 warps..... | 231 1/2 @ 232 |
| No. 876s-1 warps..... | 232 1/2 @ 233 |
| No. 880s-1 warps..... | 233 1/2 @ 234 |
| No. 884s-1 warps..... | 234 1/2 @ 235 |
| No. 888s-1 warps..... | 235 1/2 @ 236 |
| No. 892s-1 warps..... | 236 1/2 @ 237 |
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| No. 900s-1 warps..... | 238 1/2 @ 239 |
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| No. 924s-1 warps..... | 244 1/2 @ 245 |
| No. 928s-1 warps..... | 245 1/2 @ 246 |
| No. 932s-1 warps..... | 246 1/2 @ 247 |
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| No. 972s-1 warps..... | 256 1/2 @ 257 |
| No. 976s-1 warps..... | 257 1/2 @ 258 |
| No. 980s-1 warps..... | 258 1/2 @ 259 |
| No. 984s-1 warps..... | 259 1/2 @ 260 |
| No. 988s-1 warps..... | 260 1/2 @ 261 |
| No. 992s-1 warps..... | 261 1/2 @ 262 |
| No. 996s-1 warps..... | 262 1/2 @ 263 |
| No. 1000s-1 warps..... | 263 1/2 @ 264 |
| No. 1004s-1 warps..... | 264 1/2 @ 265 |
| No. 1008s-1 warps..... | 265 1/2 @ 266 |
| No. 1012s-1 warps..... | 266 1/2 @ 267 |
| No. 1016s-1 warps..... | 267 1/2 @ 268 |
| No. 1020s-1 warps..... | 268 1/2 @ 269 |
| No. 1024s-1 warps..... | 269 1/2 @ 270 |
| No. 1028s-1 warps..... | 270 1/2 @ 271 |
| No. 1032s-1 warps..... | 271 1/2 @ 272 |
| No. 1036s-1 warps..... | 272 1/2 @ 273 |
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| No. 1044s-1 warps..... | 274 1/2 @ 275 |
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| No. 1080s-1 warps..... | 283 1/2 @ 284 |
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| No. 1092s-1 warps..... | 286 1/2 @ 287 |
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| No. 1100s-1 warps..... | 288 1/2 @ 289 |
| No. 1104s-1 warps..... | 289 1/2 @ 290 |
| No. 1108s-1 warps..... | 290 1/2 @ 291 |
| No. 1112s-1 warps..... | 291 1/2 @ 292 |
| No. 1116s-1 warps..... | 292 1/2 @ 293 |
| No. 1120s-1 warps..... | 293 1/2 @ 294 |
| No. 1124s-1 warps..... | 294 1/2 @ 295 |
| No. 1128s-1 warps..... | 295 1/2 @ 296 |
| No. 1132s-1 warps..... | 296 1/2 @ 297 |
| No. 1136s-1 warps..... | 297 1/2 @ 298 |
| No. 1140s-1 warps..... | 298 1/2 @ 299 |
| No. 1144s-1 warps..... | 299 1/2 @ 300 |
| No. 1148s-1 warps..... | 300 1/2 @ 301 |
| No. 1152s-1 warps..... | 301 1/2 @ 302 |
| No. 1156s-1 warps..... | 302 1/2 @ 303 |
| No. 1160s-1 warps..... | 303 1/2 @ 304 |

north of this city, and the transfer of this property will be made on November 1. This is considered one of the biggest deals ever made here, as the entire property consists of about 242,000 acres of land in Florida and Alabama and 273 turpentine stills, besides the storage-yards, tanks, etc., near this city. The offering at present of vessels for the lumber and timber-carrying trade is light, and rates still firm and not quotably lower. Charters reported last week were the bark Bruce Hawkins, 543 tons, from Pascagoula to New York with lumber at \$7.50; a British steamer, 1457 tons, from the Gulf to United Kingdom or Continent with timber at 130/; a British steamer, 2018 tons, from Mobile to United Kingdom or Continent with timber on private terms, and schooner John F. Krunk, 487 tons, from Pensacola to Washington, D. C., with lumber at \$7.50.

New Orleans.

[From our own Correspondent.]

New Orleans, La., October 21.

In this section of the South it may be stated that the fall trade has been fairly inaugurated, and the movement in all industries has been quickened materially. Of the leading industries, that of lumber seems to have shown more snap and vigor during the present month than most other lines of trade, and although the demand from farming sections is later than usual, the amount going into consumption is steadily on the increase. Manufacturers everywhere in this State and at adjacent points in Alabama, Mississippi and South-eastern Texas are at the moment in much better humor, and view the outlook for a good lumber trade this fall and winter with much more confidence than that presented sixty days ago. Mills everywhere in this section are running regularly, and many have orders sufficient to keep them running on full time for sixty days at least. In yellow pine the situation is much improved, and while few millmen look for any urgent demand before the first of January, a steady business is now in progress, and the demand, both foreign and domestic, is expected to steadily move upward. The last bulletin of the Yellow Pine Clearing-House shows that for the first time since early last spring the total shipments of the members of the organization are greater than the current production for the month. At Monroe, Alexandria and Shreveport the commercial depots of North Louisiana, the situation is infinitely improving, and all the yellow-pine mills in that thriving section of the State are well supplied with orders. Scarcity of labor in some cases is causing considerable inconvenience to manufacturers, and they are obliged to get hands from this and other cities. Few persons have any conception of the volume of business transacted in cypress and other woods. The cypress trade has grown steadily, and almost every cypress company in the State has been taxed to its utmost capacity during the present year to fill orders promptly. Manufacturers have always been conservative as to values, and the market has ruled very steady, with prices well maintained. The hardwood situation is growing better slowly, and prices have generally improved in certain cases. The foreign export trade at the moment is of very light volume, and under the new rules relating to demurrage the general trade of the port has been severely handicapped. The heavy receipts of cotton, which takes all the available berth room on steamers, is also having a demoralizing effect on the export trade of this port. Ocean freights for desirable vessels are still above shippers' views, and this, coupled with the scarcity of tonnage, is giving a very quiet tone to the foreign export business in

lumber. A charter of a steamer of 1407 tons was closed last week to load timber at a Gulf port for United Kingdom at 130/. While there is every indication that during the fall and winter months a large volume of business in lumber and timber will be transacted, there are certain restrictions to the trade that will have to be removed in order to give New Orleans the position as a port of export to which it is entitled at the moment when its commercial and industrial features are brighter than ever before in the history of the port.

Lumber Notes.

The National Lumber Co. of Baltimore has been incorporated at Dover, Del., with a capital stock of \$125,000.

The steamship Red Cross cleared from Galveston, Texas, last week for Bremen with 121,791 feet of yellow-pine lumber and 2826 oak staves, with other cargo.

The shipments of lumber from the port of Mobile for the week ending the 19th inst. amounted to \$96,989 feet, and for the season 7,388,497 feet, against 9,227,742 for the corresponding week last year.

The shipments of lumber last week from the port of Charleston, S. C., aggregated 3,260,000 feet, of which 2,460,000 feet went to New York, 350,000 feet to Philadelphia and 450,000 feet to Bridgeport, Conn.

The Texas & Gulf Lumber Co. of Orange, Texas, was chartered last week, with a capital stock of \$10,000. The incorporators are J. E. Meginn and F. Navarro of the City of Mexico, and H. R. Field of Orange.

The Deal Land & Lumber Co. of Norfolk, Va., was chartered last week, with a capital stock of \$10,000. The officers of the company are: W. F. Deal, Emporia, president; J. T. Deal, Norfolk county, secretary-treasurer.

It is stated that the Big Pine Lumber Co. at Boggy, Ark., which was destroyed by fire last June, has been rebuilt. This saw-mill plant has a capacity of 75,000 feet per day. The company saw both longleaf and shortleaf timber.

The large lumber plant at Shady, near Mountain City, Tenn., has been started, with a capacity of 75,000 feet a day. No lumber will be shipped until next January, when it is expected railway communication will be completed to Shady.

The Keyser Door and Box Factory at Keyser, W. Va., purchased recently by a Pennsylvania syndicate, has started up with 125 hands. It has been transformed into a furniture factory, and it will hereafter be known as the Keyser Furniture Co.

At Oshkosh, Wis., last week a fire in the lumber district destroyed 13,000,000 feet of lumber and part of the Hollister-Ames Company's mill and the plant of Challoner & Sons Co. The total loss amounts to about \$350,000, all fully covered by insurance.

Manufacturers of cottonwood lumber met at Cairo, Ill., on the 20th inst. Prices made at Chicago on the 2d inst. were reaffirmed. The stocks were found to be exceedingly short and future logging operations now unpromising, owing to unfavorable weather.

W. M. & W. C. Kendall of West Liberty, Ky., have just closed a deal with a New York Lumber Co., selling them \$15,000 worth of valuable timber land in Eastern Kentucky. The company has let the contract to cut the timber and deliver on the banks of the stream.

Mr. C. E. Wells, a lumber manufacturer of Dinwiddie county, Virginia, purchased on the 20th inst. from Mr. W. R.

McKenney of Petersburg, Va., the standing timber, estimated at about 4,000,000 feet, on two large tracts of land in Dinwiddie county on Stony creek.

Receipts of lumber at New Orleans for the week ending October 19 amounted to 2,148,000 feet, and for the season 26,625,121 feet, against 21,307,000 feet last season. Receipts of laths were 150,000 bundles, shingles 165,000 bundles, oak staves 689,000 and cypress staves 61,000.

It is stated that a box factory is to be established at Chattanooga, Tenn., to manufacture every description of boxes from polished oak or cherry dressing-cases to medicine and fruit boxes. Another factory for the manufacture of chairs and other specialties in the furniture line is also reported as about to be established in the same city.

It is said that F. W. Simmons of Ottumwa, Iowa, representing a company of Iowa and Chicago capitalists, is negotiating for the purchase of the San Pablo estate in the State of Campeche, Mexico, consisting of 300,000 acres of land, and with twenty-four miles of water front. The purpose of the syndicate is the development of valuable woods and cattle-raising.

It is stated that C. M. Carrier of Buffalo, N. Y., is at the head of a syndicate which contemplates building a railroad from Sardis, Miss., to Delta, a distance of twenty-five miles southwest, and the erection of a saw-mill plant at Sardis. The contract and other preliminaries are expected to be settled in a few days, when it will be definitely known whether the plant and road will be built or not.

A fine specimen of a walnut tree was recently cut in Roane county, West Virginia, on a tributary of Big Sandy, for a company in Charleston, W. Va. The tree when cut measured over sixty-one feet in length, from which five logs were obtained, four of them being 12-foot cuts and another measuring thirteen feet. Sawed lumber of fine quality amounting to 2519 feet was obtained from the logs when cut.

The Sherrill-Russell Lumber Co. of Paducah, Ky., has just commenced business under favorable conditions. Mr. Luke Russell, formerly of Nashville, but for several years connected with the St. Louis Sash and Door Works, and C. H. Sherrill of Union City, Tenn., of C. H. Sherrill & Co., compose the firm, and are experts in the lumber business. The company will handle yellow pine and poplar and do a general lumber business.

The following vessels cleared last week from Jacksonville, Fla.: Schooner Isaac N. Kirlin for Baltimore with 320,885 feet of yellow-pine lumber, and schooner Robert A. Snyder for Providence, R. I., with 255,000 feet. The Clyde Line steamer Iroquois cleared with 300,000 feet of yellow-pine lumber and 4000 bundles of shingles, with other cargo, and the steamer Carib for Boston with 300,000 feet of lumber and 4000 cross-ties among her cargo.

The North Carolina Furniture Manufacturers' Association, comprising, with a few exceptions, all the furniture manufacturers in the State, was organized at Raleigh, N. C., last week. The purposes of this organization are the mutual advancement of furniture manufacturers in the development of the furniture trade, and to secure concert of action of the manufacturers in all matters relating to transportation and other objects of mutual interest. The following officers were elected: J. M. Mendenhall, Lexington, president; J. L. Borden, Goldsboro, first vice-president; A. E. Tate, High Point, second vice-president; J. S. White, Mebane, secretary.

PHOSPHATES.

Phosphate Markets.

Office Manufacturers' Record, Baltimore, Md., October 24.

The firmness in ammoniates and all fertilizer ingredients has imparted a better tone to phosphate rock, and the market is steady, with a better volume of business. Manufacturers of fertilizers are in the market for larger lots, and the demand from out of town is improving. The following charters were reported last week: Steamer James Turpie, 1082 tons, from Tampa to United Kingdom with phosphate rock on private terms; schooner The Josephine, 563 tons, from Port Royal to Baltimore with phosphate rock at \$2; the French bark Charles & Max, 515 tons, from Pensacola to Nantes with phosphate rock at 22/6, December, and steamer May, 1497 tons, from Norfolk to Key West with coal and back from Tampa with phosphate rock on private terms. The situation at mining districts in the Southern phosphate belt remains unchanged, and reports received are in most cases satisfactory. The difficulty in securing tonnage and high rates of freight have a tendency to restrict operations. Several charters have been closed recently for large steamers to load late November and December, and at the moment the offering of desirable boats is better. In South Carolina the market is steady, with prices unchanged. The movement in Florida is a more active one, and a number of plants that have been shut down during the summer are either working or getting ready to resume. Pebble shipments are liberal, and more land rock is being shipped from the ports. The market in Tennessee is unsettled, and prices slightly easier for domestic rock. Standard companies, however, are decided in their views, and prefer holding their output rather than accept present prices. 75 per cent. rock is quoted \$2.75 per ton and 78 per cent. \$3.50 to \$3.75.

Fertilizer Ingredients.

The market for ammoniates has ruled fairly active and firmer, with values appreciating. Stocks in the West are by no means excessive, and holders are generally firm in their views. The demand during the past week has been better, both from Eastern and Southern sources.

The following table represents the prices current at this date:

| | |
|---------------------------------|------------------|
| Sulphate of ammonia (gas).... | \$2 75 @ 2 80 |
| Nitrate of soda, spot Balto.... | 1 80 @ 1 85 |
| N. York..... | 1 77 1/2 @ 1 80 |
| Blood..... | 2 30 @ 2 35 |
| Azotine (beef)..... | 2 32 1/2 @ 2 35 |
| Azotine (pork)..... | 2 32 1/2 @ 2 35 |
| Tankage (concentrated)..... | 2 15 @ 2 17 1/2 |
| Tankage (9 and 20)..... | 2 20 @ 2 25 & 10 |
| Tankage (7 and 30)..... | 19 50 @ 20 00 |
| Fish (dry)..... | 23 00 @ 24 00 |

Phosphate and Fertilizer Notes.

The Union phosphate plant at Standard, Fla., of which Captain Porter is manager, commenced operations last Monday.

The steamship Empress cleared last week from Savannah, Ga., for Havre and Rotterdam with 1807 tons of high-grade Florida phosphate rock among her cargo for the latter port.

The schooner Mary Curtis cleared last week from Charleston, S. C., for Richmond, Va., with 650 tons of phosphate rock, and the barge Carrie L. Tyler for Wilmington, N. C., with 789 tons.

The large steamer Nith entered the port of Pensacola on the 19th inst. and will load a large cargo of Tennessee phosphate rock from the Mt. Pleasant Phosphate Co. The shipments of phosphate from Pensacola are reaching to large proportions, and, next to timber and lumber, is the most valuable item of export.

MECHANICAL.

Flexible Metallic Tubing.

Manufacturers and others engaged in industrial operations, besides users of hose for numerous purposes, will be interested in some mention of a flexible metallic tubing which is now rapidly becoming adopted. This tubing is in use in all parts of the world, over 2,500,000 feet of it having been disposed of. The fact that



FIG. 1—EXTERNAL CONSTRUCTION AND CONNECTION—5/16 TO 3/4 INCH.

it is as flexible as rubber hose that will withstand the same pressure indicates the manifold uses to which it can be put. For conducting steam it is very valuable, being unaffected by heat or climatic conditions; nor will it char, burn, kink or crush. It is used for conducting water, gases, compressed air, oils, acids, ammonia, etc., that will not attack copper or steel; in fact, it would be practically



FIG. 2—EXTERNAL CONSTRUCTION AND CONNECTION—1 TO 8 INCH.

impossible to detail the duties to which this commodity can be adapted where flexibility in the conducting medium is necessary.

This tubing is made in all sizes from five-sixteenths inch to eight inches, inclusive. There is a special construction used where the tubing is designed to conduct gas under pressure, and it is made to withstand any given internal pressure

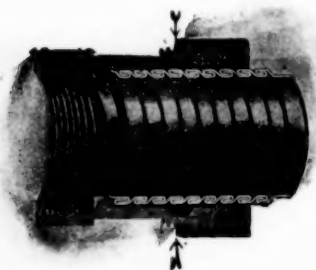


FIG. 3—CROSS SECTION TUBING AND CONNECTION.

and tons of external pressure. Furthermore, it is practically indestructible.

Several instances may be cited of uses made of this flexible metallic tubing proving its superiority. One purchaser has applied it for connection to a species of tilting furnace in a steel foundry, and finds it exceptionally satisfactory as compared to rubber hose, which constantly failed because of the heat to which it was subjected. Another user applies this tubing for a steam connection to a mov-

ing press in manufacturing rubber goods. And the United States government has lately placed an order for eight-inch tubing for suction and delivery service.

The accompanying illustrations will serve to show the construction of this tubing. Fig. 1 presents the external construction and connection in sizes from five-sixteenths to three-quarters of an inch, and Fig. 2 in sizes from one to eight

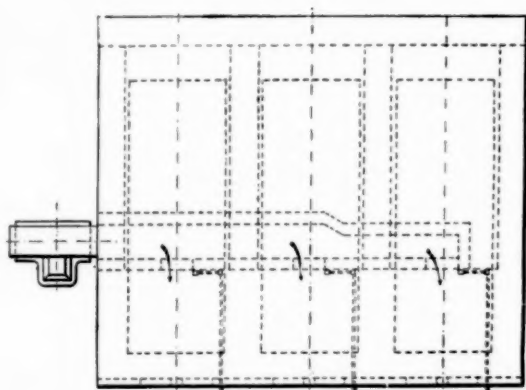
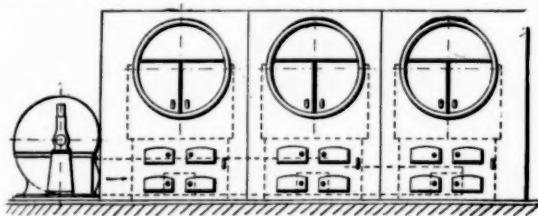


FIG. 1—FORCED-DRAFT SYSTEM TO OLD BOILER PLANT.

inches. Fig. 3 shows cross-section tubing and connection. Interested parties may obtain further information concerning this flexible metallic tubing by addressing the manufacturer's Western and Southern agents, Messrs. Walter L. Flower & Co., 311 Chemical Building, St. Louis.

Mechanical Draft for Steam Boilers

Mr. Walter B. Snow, a Boston engineer, who has studied thoroughly mechanical-draft methods, recently presented an important paper on the subject. He said:

"In any consideration of mechanical draft, comparison must naturally be made between the chimney and the fan blower. As the steam jet usually requires for its operation from five to ten times as much steam as does the fan, this method of producing draft does not properly enter the discussion.

"The chimney is of necessity an exceedingly inefficient device for moving air, for a relatively high temperature of the flue gases is absolutely essential to its action. As a result, from 20 to 40 per cent. of the heat of the fuel is dissipated in the atmosphere without further useful effect. This is by far the greatest waste occurring in modern boiler practice. Any attempt to utilize a portion of this waste heat reduces the temperature and lessens the draft, which, in the case of a chimney, can only be made good by increasing its height. A chimney 100 feet high, with external air at 60 degrees and internal gases at 500 degrees, will produce an unbalanced pressure of about 0.65 of an inch. If the temperature of the gases be lowered to 300 degrees a chimney about 150 feet in height will be required to produce the same intensity, while for a temperature as low as 200 degrees the chimney will have to be about 240 feet high.

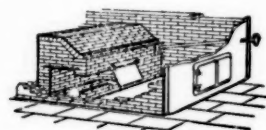
"With the low chimney effective utilization of the heat of the waste gases is therefore impossible, for in order to maintain the draft they must of necessity pass away at relatively high temperature. A high chimney entails considerable expense, and wastefully employs heat.

"A fan calls for an expenditure of only about one-seventy-fifth of the heat required by the chimney to produce the same results. Practically all of the heat of the waste gases is rendered available for utilization, and it only remains to provide means for abstracting the heat. For effective working the initial temperature of gases must approximate 75 degrees above the temperature of the steam in

actually increases the intensity of the draft produced at a given speed. Here the fan shows its fundamental advantage, rendering available for utilization practically all of the waste heat.

"Tests made in plants equipped with fuel economizers and mechanical-draft apparatus show an average saving of about 15 per cent.

"Another means of utilizing heat of



the boiler. Between this point and the atmospheric temperature is marked the range through which the heat abstractor may be effective.

"The fuel economizer is an effective means of transferring the heat from the gases to the water fed to the boiler. It shows the highest efficiency when the initial temperature of the gases is excessive; that of the water entering the econo-

flue gases is by air heaters or heat abstractors. In 1881 an exhaustive series of tests was made of apparatus so arranged above the boiler that the gases drawn therefrom by means of a blower served to heat the incoming air before it entered the ash pit. The result was an increase of about 300 degrees in the temperature of the air so admitted and an opportunity for perfect control over its

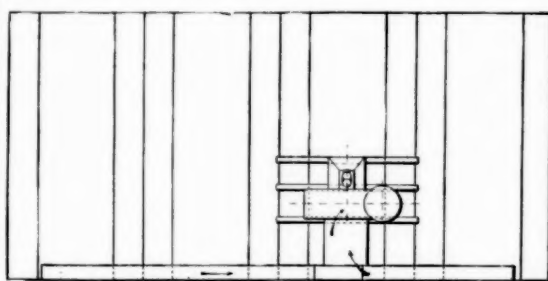
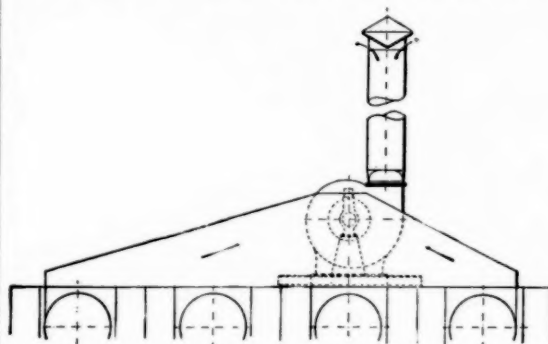


FIG. 2—COTTON MILL AT HAW RIVER, N. C.

mizer is low, and the fuel is high-priced. The temperature of the gases necessary to produce the requisite draft with a chimney marks the limit to which they may be cooled by the economizer. With a fan, however, the intensity of the draft is practically independent of the temperature of the gases, and in point of fact when a fan is applied upon the induced principle a decrease in the temperature

volume and pressure independently of atmospheric conditions.

"A maximum boiler efficiency of nearly 90 per cent. was thus secured, while the steam required to drive the blower was stated to be only 1 per cent. of that generated by its use. Although certain features of this particular apparatus militated against its general use, other devices applied to marine boilers have

shown satisfactory economical results.

"In the primary introduction of mechanical draft as a substitute for chimney, first consideration is given to the relative costs of the two and to the expense of maintenance and operation. From comparison of plants differing widely in character and capacity it appears that a single forced-draft fan, with direct-connected engine and short stack, can be installed for less than 20 per cent. of the cost of a brick chimney; a single induced-draft fan, with direct-connected engine and short stack, will cost less than 30 per cent. of a chimney, and that a duplex induced-draft apparatus, consisting of two fans, with direct-connected engines, inlet and outlet connections and short stack, will cost but little more than 40 per cent. of a chimney. The latter arrangement is only employed where it is the practice to introduce relay units.

"The delivery stack's height must depend upon the elevation of the surrounding buildings. Where tall buildings are not adjacent and the boiler-house is of moderate height, the smoke pipe need pass only just above the roof. But where smoke is discharged near other buildings the delivery pipe must be carried above their roof line. Owing, however, to the positive action of such a fan, the area of the stack may be materially less than would be required with natural draft.

"The cost for maintaining mechanical-draft apparatus depends upon method of application. If applied to force air to the ash pits it will operate at moderate speed, will handle only cool air and will have as long a life as the usual boiler attachments. If employed to exhaust the gases from the boilers, it will be subjected to temperatures ranging up to perhaps 600 degrees. Disregarding leakage, the capacity will have to be greater in proportion to the increased temperature and decreased density of the gases, and the circumferential speed will have to be higher to produce the same intensity of draft. Within the ordinary range of temperatures the constituent gases, which are dry, have no deleterious effect upon the steel plate of which the fan is constructed. Overheating of shaft bearings is avoided by passing water through chambers in the boxes. The conditions, so far as they affect the life of the fan, are therefore practically no more adverse than in the case of a forced-draft installation.

"The expense of operation depends upon the disposition of the exhaust from the fan engine. Utilized as it should be, the cost of draft production becomes infinitesimal. If, however, the exhaust must be discharged to the atmosphere, the actual expense for operation, as measured by the proportion of steam so used, compared with that generated, ranges from $\frac{1}{2}$ to 2 per cent. in plants of reasonable size up to perhaps 3 or 4 per cent. in small plants. It may be readily shown that with the smaller amount the annual fuel expense for operating the fan will be materially less than the fixed charges on the additional cost of a brick chimney to produce the same results. Any great expenditure for operation is offset by increased efficiency of combustion and decreased cost of fuel.

"Mechanical draft may be introduced either as a substitute for or as an auxiliary to a chimney, and installed for forced or induced principle, as desired.

"Conditions are so effective in determining the choice that it cannot be assumed that either method of application is distinctly superior to the other.

"One of the simplest methods of installing a forced-draft system in an existing boiler plant is illustrated in Fig. 1. The fan, of steel plate, with direct-connected double-cylinder engine, is placed immedi-

ately over the end of a brick duct into which the air is discharged. This duct is carried under ground across the front of the boilers, to the ash pits of each of which connection is made through branch ducts. Each branch-duct opening is provided with special ash-pit damper, operated by notched handle bar, as illustrated in the detail. This method of introduction serves to distribute the air within the ash pit, and to secure even flow through the fuel upon the grate above. The ash-pit doors must remain closed to bring about this result. A chimney of sufficient height then discharges the gases above objectionable level. The introduction of a fan is evidence of the insufficiency of the existing chimney, but such a chimney will usually serve as a discharge pipe for the gases when the fan is employed. The fan thus becomes more than a mere auxiliary to the chimney—it practically supplants it so far as the method of draft production is concerned.

"In the equipment of a new boiler plant with a forced-draft system it is frequently desirable to construct a hollow bridge wall and to discharge the air from the fan through the duct thus formed, and thence to the ash pit through the damper, as shown in the detail. The fan may be of regular construction and set close up to the side of the boiler setting, as indicated. The chimney need extend only above the boiler-house roof unless the immediately adjacent buildings are of greater height.

"The installation of an induced-draft system in a new plant is that presented by Fig. 2, the fan being supported above the boilers and connected directly with the main flue from which the gases are drawn.

"A high-speed double-cylinder engine, with water-cooled bearings, carries the fan-wheel upon its extended shaft. The engine is entirely closed, provided with continuous oiling devices and capable of sustained operation. From the fan the gases are discharged upward to the atmosphere through a small pipe extending just above the roof. A very similar arrangement may be adopted in an old plant by connecting to the main flue and preventing the passage of the gases to the existing chimney, or the gases may be bypassed through the fan and delivered with increased velocity to the chimney, which merely serves as a means of carrying them up to a suitable level.

"All types of engine-driven fans, such as illustrated, can be readily controlled by steam pressure through a special regulating valve, or a combination of damper regulator and lever valve. A very slight rise or fall in pressure actuates the valve and greatly decreases or increases the amount of steam admitted to engine. The steam pressure can thus be automatically maintained within a pound above or below the normal, while the fan instantly responds to changes in conditions, and particularly to sudden demands for more steam. This feature of flexibility and of ready response is valuable in plants where there are great fluctuations in the steam requirements. Higher fan speed not only increases the air volume, but coincidentally increases the intensity of draft, which facilitates the ready passage of larger volumes at higher velocity.

"Surplus capacity can be more readily and economically provided in the fan than in the boiler; that is, it costs far less to install a fan of sufficient capacity to force 1000 horse-power of boilers to an output of 2000 horse-power to meet sudden or temporary demands than it does to provide a like surplus in boiler capacity. This provides special opportunities for service in connection with mills using water-power, but which have steam plants to meet contingencies. As such a

plant is likely to be operated only a portion of the year, it is warrantable to force it and thus operate it under somewhat less economical conditions than could be obtained if a much more expensive equipment was installed to secure a higher efficiency.

"In case of destruction of a chimney, the fan may perform temporary service of great value. Experience with the fan is, however, likely to result in doing away with a chimney.

"The largest item of operating expense being fuel, special attention is given to its reduction. Low-grade fuels are almost invariably more finely divided and require greater draft pressure than those of better quality. With the height of chimney ranging from 100 to 150 feet, and particularly with economizers, it is difficult to produce sufficient intensity of draft to burn fuel of this character. For burning No. 2 or 3 buckwheat coal at a moderate rate of combustion (less than fifteen pounds per square foot of grate) a draft of five-eighths inch to more than one inch of water is required. The theoretical height of a chimney to produce the latter intensity with external air at 60 degrees and gases leaving an economizer at say 350 degrees is very nearly 200 feet. The fan, introduced either for forced or induced draft, readily creates this intensity at moderate speed, automatically regulated to exact requirements of the fuel.

"The average height of chimney practically determines the relation between the rate of combustion and the quality of the fuel, and indirectly establishes the proportions of boiler. An increased rate of combustion necessitates a deeper fire and more intense draft, which the chimney may be unable to produce, but which may be readily created by means of a fan. Each particle of air, in passing upward through the deeper bed of fuel, under this more intense draft, thus has better opportunity for parting with its oxygen, and therefore produces more effective combustion. For this reason plants operated by mechanical draft have been forced far beyond the boiler rating without showing material loss of efficiency.

"As this system becomes introduced we may look to certain changes in boiler design, which will more effectively meet the conditions of high furnace temperatures with decreased air supply.

"Mechanical draft costs much less for installation than the chimney, is essential to the most complete utilization of the waste heat of the flue gases, is capable of burning low-grade fuels and decreasing the fuel cost, and able to readily meet sudden and excessive demands for more steam; also is flexible in its character, entirely independent of atmospheric changes and capable of adaptation to almost all conditions. It is manifest that it may be installed either on the forced or induced principle as required, and that it may be automatically controlled so as to maintain constant steam pressure."

TRADE NOTES.

Ventilating Contract.—The Sprague Electric Co. of New York has secured the contract for ventilating the beautiful new Grand Central Depot, New York city. The ventilating fans, ranging in size from eighteen to sixty inches, will be operated by the well-known Lundell electric motors.

Wants Wagon Factory.—The Commercial and Manufacturers' Association of Paducah, Ky., is desirous of locating a wagon factory, and states that a strong company can be formed. All the necessary timber for such a plant can be secured at first cost, and other advantages are also available. Correspondence solicited.

They Order Cross Filters.—The merit of the "Cross Oil Filters" is constantly being attested by the representative firms that order them from the makers. The Burt

Manufacturing Co. of Akron, Ohio, is the manufacturer, and it has filed an order from the Pressed Steel Car Co. of Pennsylvania for two very large filters.

New 15-Inch Rule.—A handy 15-inch book rule, with brass edge, has been issued by the Magnolia Metal Co. of 266 West street, New York. The rule is lettered with reference to the company's well-known "Magnolia Metal" for bearings. This anti-friction metal is intended for all machinery bearings; it lasts long, runs cool and requires a minimum amount of oil.

Cork Sectional Covering.—Sales of the "Standard Cork Sectional Covering" continue to be made in all parts of this and other countries. The increasing demand for this product amply evidences the favor with which it has been received by consumers. Its many merits are constantly making new advocates for its use. The latest orders filed by the manufacturer, the Cork Floor & Tile Co. of 139 Congress street, Boston, came from Columbus, Miss.; Diaz, Mexico; Georgetown, S. C., and Atlanta, Ga.

Saw-Mill Specialties.—As the lumber trades throughout the country become better acquainted with the saw-mill specialties of the Soule Steam Feed Works of Meridian, Miss., increased orders for these goods make their appearance. The company has sold steam feeds, lumber stackers, log turners and log loaders lately in Manitoba, Ontario, Michigan, Missouri, South Carolina, Alabama, Arkansas, Florida, Mississippi and Louisiana. Lumber manufacturers are invited to secure particulars regarding the Soule specialties.

Fay & Egan Abroad.—After an absence of five months, Thos. P. Egan, president of the J. A. Fay & Egan Co. of Cincinnati, has returned to this country. Mr. Egan took an active interest in his company's exhibit of woodworking machinery at the Paris Exposition, and made an extended tour of both Great Britain and the Continent, visiting his company's agents and incidentally becoming more familiar with the wants of various countries in the woodworking-machinery line. The Fay & Egan Company received the "Grand Prix" at the exposition.

Perkins Machine Shop.—The death of F. S. Perkins of Lowell, Mass., last summer has resulted in the completion of arrangements to dispose of his well-known machine-tool works. The settlement of the estate necessitates an absolute sale, and this will be held on November 1. The Perkins engine lathes and other machine tools are widely known to users, and their merit has gained for them a constantly-increasing trade. A catalogue of the property in detail may be obtained by addressing Messrs. J. E. Conant & Co., auctioneers, Lowell (or note Messrs. Conant's advertisement).

Sprague Electric in St. Louis.—The Sprague Electric Co. has opened a branch office in the Security Building, St. Louis, in charge of C. B. White, well known in the Western electrical field. Mr. White was formerly connected with the engineering department of the old Edison Electric Co., located in Pittsburg, and has done considerable construction work in that territory. He was later electrical superintendent in charge of construction work with the Calumet Electric Street Railway Co., Chicago, and for the past two years has been connected with the Western Electric Co. in the engineering and sales department. The Sprague Electric Co. now has branch offices in Chicago, Boston and St. Louis, and agencies in all of the principal cities in this country and abroad.

Exhaust System for Handling Material.—Many manufacturing establishments find a necessity for the installation of some efficient equipment for handling material. In the South there are numerous plants of this character, and their owners seek only that equipment which most economically and successfully performs the duties for which it is intended. This is seen in the fact that the Sterling Blower & Pipe Manufacturing Co. of Hartford, Conn., is selling readily its "Sterling Improved Exhaust System" to Southern operators. This Hartford company has just received contract from the Parsons (W. Va.) Pulp & Paper Co. to equip the latter's plant with the exhaust system mentioned, for handling material from barking machines. The Sterling equipment is also in operation at the mills of the Belhaven (N. C.) Lumber Co., the Bridgers & McKelthan Lumber Co. of Lumber, S. C., and others. The Sterling Blower & Pipe Manufacturing Co. (which also has New York and Boston offices) finds its business steadily increasing in the South.

CONSTRUCTION DEPARTMENT.

THE MANUFACTURERS' RECORD seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

*Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery Wanted." In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the Manufacturers' Record.

It often occurs that the organization of a new company in a town is not known by the postmaster, and hence letters addressed to the company are returned marked "not known." The Manufacturers' Record reports the first organization of all companies, and our readers, in seeking to get into communication with them, should be very careful in deciding how to address them, and it is often advisable to add the names of one or more incorporators as an aid to the postmaster in delivering mail.

ALABAMA.

Alexander City—Cotton Mill.—The Alexander City Cotton Mills, lately reported organized for erection of a 10,000-spindle mill, will build with a view to doubling capacity; also will probably establish knitting mill. D. L. Lewis, Sylamore, Ala., may be addressed.

Anniston—Net and Twine Mill.—The American Net & Twine Co. is improving its power plant, but is not increasing capacity, as lately noted; contracts for engine, etc., have been made.

Birmingham—Cracker Factory.—The Martin Cracker Co. will increase capital from \$10,000 to \$20,000 and double the capacity of its factory.

Birmingham—Light and Power Plant.—The Birmingham Railway, Light & Power Co. will issue \$1,750,000 in bonds, which, it is stated, will be expended for various improvements to its lines.

Decatur—Bridge.—The Louisville & Nashville Railroad Co. will construct a \$250,000 steel bridge across the Tennessee river; Geo. E. Evans, general manager, Louisville, Ky.

Eufaula—Cotton Mill.—The Eufaula Cotton Mills has added about 1100 spindles and thirty-two looms; previous equipment, 11,500 spindles and 321 looms.

Greenville—Electric-light Plant and Water-works.—The city contemplates purchasing a system of water-works, as reported lately, and will then issue bonds for the purpose of erecting an electric-light plant; C. E. Hamilton, mayor.

Hargrove—Coal Lands.—The Cahaba Southern Mining Co., T. H. Aldrich of Birmingham, president, has leased 520 acres of coal lands near Hargrove for development.

Mt. Rozell—Flour Mill.—J. E. Burton has made improvements to his flour mill.

Oxford—Flour Mill.—H. Priebe will change his mill from reels to sifter system.*

Selma—Hardware.—The Johnson Hardware Co., capital \$10,000, has been chartered to succeed Johnson Bros.; incorporators, Tom Johnson, H. B. Johnson and Julius Fiehlman.

Talladega—Knitting Mill.—Company lately reported to be organized by P. S. Williams, Cecil Browne and others to establish knitting mill will be known as the Talladega

Hosiery Mills and have capacity of 150 dozen pairs of hose per day of ten hours; building 50x100 feet will be erected. W. T. Billue is general manager.

Tusculum—Planing Mill.—David Werling of Indiana has purchased a tract of timber land near Tusculum, and will locate a large planing mill.

Warrior—Coal Mines.—The Central Coal Co. of Birmingham, organized recently, as reported, has purchased coal lands near Warrior for \$18,000, and will develop.

Woodlawn—Water-works.—The Birmingham (Ala.) Water-Works Co. will construct system of water-works at Woodlawn, as lately reported.

ARKANSAS.

Hot Springs—Chartered: The Sure Cure Co., with capital stock of \$50,000, with John McMahon, president.

Hot Springs—Electric-light Plant.—James P. Turner of Chicago, Ill., is conferring with local capitalists relative to the construction of a dam across Ouachita river and the operation of an electric-light plant for street-railway system, lighting the city and general purposes. Mayor George Beldin and others will confer with Mr. Turner at once and make definite arrangements.

Little Rock—Copper and Gold Mines.—Kirkpatrick & Craig are developing copper and gold mines in Polaski county and negotiating for the construction of railroad to the mines, a distance of six miles. Address D. T. Kirkpatrick.

Little Rock—Mercantile.—Incorporated: The J. W. Pope Co., capital \$100,000, to buy and sell cotton, etc.; J. W. Pope, president, and E. A. Pope, secretary.

Louisiana—Flour Mill.—A 50-barrel flour mill will be established, and machinery has not been purchased. Address Henry Beebeum.

Monticello—Ice Factory.—The Monticello Ice Co., capital \$25,000, has been incorporated to manufacture ice; H. F. Bailey, president; J. G. Williamson, vice-president, and W. A. Wood, secretary-treasurer.

Texarkana—Coal Company.—The Warrior Coal Co. has been incorporated, with capital stock of \$25,000, by W. J. Kelley, president; G. W. Fouke, John Kelly and W. L. Haydon, directors.

FLORIDA.

Gainesville—Fertilizer Factory.—J. H. Ayers is installing in his moss mill a plant for grinding up waste moss and trash for fertilizer.

Green Cove Springs—Electric-light and Ice Plants.—The Magnolia Hotel Co. will install electric-lighting plant, an eight-ton refrigerating machine and a two-ton ice factory.

Jacksonville—Cigar Factory.—Cuesta, Rey & Co. of Tampa will establish a cigar factory in Jacksonville.

Lake Buflum—Turpentine Manufacturing.—The Hinson Turpentine Co. has purchased timber, which it will develop for turpentine manufacturing, etc.

Lake City—Steam Laundry.—S. C. Starr contemplates the installation of a steam laundry.*

Pensacola—Naval Stores.—The Union Naval Stores Co. has been incorporated at Mobile, Ala., with capital stock of \$300,000, by J. W. Wade and E. C. Hughes of Mobile, C. Muller of Pensacola, T. A. Jennings of Tampa and J. F. C. Myers of Savannah. The company purchases lands of 242,000 acres in Florida and Alabama, 273 turpentine stills, besides stock-yards and tanks at Goulding of A. M. Moses & Co. C. Miller will be general manager, with offices in Sullivan Building.

Tampa—Cigar Factory.—The La Compania Dominguez Co. of Bartow will remove its cigar factory to Tampa.

Tampa—Real Estate.—Incorporated: La Sociedad Anonima El Trabajo, capital \$17,500, by Thomas Lopez, Jose Maseda and Vincent Campo.

GEORGIA.

Aecworth—Gold Mines.—D. E. Maxwell, W. F. Coachman and associates of Jacksonville, Fla., are said to be negotiating the purchase of the Aecworth Mining & Development Co.'s mines near Aecworth for \$30,000.

Atlanta—Fertilizer Factory.—W. H. McKenzie, E. B. Lewis, John W. McKenzie and Thos. M. Callaway have incorporated the McKenzie Oil & Fertilizer Co., capital \$25,000,

and privilege of increase to \$100,000. Company will manufacture cottonseed oil and fertilizers.

Augusta—Bottling Works, etc.—Hugh H. Alexander, Robert P. Shick, James T. Harris and E. B. Baxter have incorporated the Harris Lithia Springs Co. for bottling and carbonizing mineral waters; capital stock is \$203,000.

Auraria—Gold Mines.—The Murray Hill Mining Co., reported lately as incorporated, with \$5,000,000 capital, has 700 acres of gold-bearing lands which it proposes developing. By May 1 next a 100-stamp mill is to be erected. F. L. Murray can be addressed.

Auraria—Water-power, Canals, etc.—The Americola Water-Power & Mining Co., reported last week as chartered with \$1,000,000 capital, will furnish water and water-power for mining and for other industrial purposes. The company will construct a ditch from sixty to seventy-five miles long (including feeders), nine feet six inches wide on top to six feet six inches on bottom and five feet deep for main ditch, and others in proportion. From \$200,000 to \$250,000 will be expended on this work. F. L. Murray can be addressed.

Brunswick—Cannery.—J. W. Tatem has purchased the Aiken Canning Co., and will erect a large cannery. J. B. Abrams will be secretary and treasurer of new company.

Carrollton—Bottling Works.—J. H. Jackson will erect bottling works.

Cuthbert—Broom Factory.—C. B. Beck will establish a broom factory of 500 daily capacity.

Eatonville—Cotton Mill.—The Middle Georgia Cotton Mills, reported previously to build for 5000 spindles and 100 looms, awarded contract to J. W. McMillan & Sons of Milledgeville for erection of its buildings; building to be constructed for 12,000 spindles and complement of looms; power to operate 12,000 spindles will be installed, but 5000 will be in place at the start.

Elberton—Flour Mill.—W. N. Auld of Elberton and S. M. Johnson of Anderson, S. C., contemplate establishing a roller mill of 75 to 100 barrels capacity in twenty-four hours at Elberton.

La Grange—Hardware Company.—Incorporated: The Spinks Hardware Co., capital \$300, by J. W. Spinks, R. L. Adams and N. J. Adams.

Macon—Creamery.—W. S. Brooks, O. A. Bowen, T. C. Parker and others have incorporated the Macon Dairy Co., with capital of \$2500, to conduct general creamery.

Macon—Real Estate.—Basil A. Wise, Floyd O. Schofield and Merrill P. Callaway have incorporated the Northern Heights Land Co., with capital of \$10,000, for dealing in real estate.

Marietta—Chair Factory.—The Brumby Chair Factory will enlarge its plant and install additional machinery.

Monroe—Water-works and Electric-light Plant.—The city is negotiating for the purchase of the water-works and electric-light plants, and if not successful may construct municipal plants, for which it has \$60,000 available. Address "The Mayor."

Thomson—Knitting Mill.—J. E. Chitt has secured building and will establish knitting mill.

Washington—Water-power.—L. J. Hill of Atlanta states that there is no truth in the report that he has purchased the Anthony Sheals water-power property near Washington.

Waycross—Cotton Gineries, etc.—J. E. Wadley proposes the organization of a company, with \$50,000 capital, to erect gineries, deal in cotton, etc.

Windsor—Saw-mill and Veneering Factory.—Dr. J. L. Kelly will build large saw-mill and veneering factory.

KENTUCKY.

Ashland—Tannery.—T. J. Shant & Co. is rebuilding leach-house and boiler and engine room lately destroyed by fire.

Grayson County—Asphalt Mines.—C. H. Hensel of Chattanooga, Tenn., lately reported as having purchased 200 acres of land in Grayson county containing asphaltum and to organize a company to develop, has, with B. S. Truxal, A. B. Brown, A. E. Davenport and others, incorporated the Truxal & Hensel Asphaltum Co., with capital stock of \$100,000. Office of company will be in Chattanooga.

Louisville—Automobile Company.—Peter Arlund, J. A. Windsor, Sr., W. H. Survant, Clarence Dallam and G. H. Hester have incorporated the Louisville Automobile Co., capital \$25,000, to conduct cab and hauling business.

Millon—Copper Mines.—Copper ore has been discovered on the lands of George Millon, B. B. Millon, William Foster and S. A. Deatheridge, and a stock company will be organized for developing same.

Paducah—Saddle and Collar Factory.—M. Michael & Bro. are building a \$30,000 harness factory.

Paris—Telephone System.—The Columbia Telephone Co. of Nashville, Tenn., has purchased for about \$9000 the Paris Telephone Co.'s system.

Somerset—Stave Mill.—McDonald, Johnson and others of Seymour, Ind., will build a stave mill at Somerset. Parties may be addressed care of Commercial Club, Somerset.

Somerset—Planing Mill.—Sim Grimes & Co. have leased site on which to build planing mill.

West Liberty—Timber Lands.—New York parties have bought from W. M. Kendall \$15,000 worth of timber lands for development. W. H. Manker and Johnson Hensley of West Liberty have contract to cut the timber.

West Liberty—Flour Mill.—Combs, Manker & Daniel will build flour mill.*

West Louisville—Flour Mill.—J. A. Wood will build a flour mill.*

LOUISIANA.

Crowley—Woodworking Plant, etc.—The Eckhardt Manufacturing Co., reported lately as organized, will manufacture building materials; now has in operation a planing mill and woodworking factory, and contemplates improvements, including a brick-making plant; Oscar E. Eckhardt, secretary.

Lake Charles—Sugar Refinery.—The Lake Charles Refinery Co. has reorganized and let contract for extensive improvements to its refinery, including six-roller mill of 400 tons capacity daily, three boilers of 375 horse-power, electric-lighting equipment, etc.

Laurel—Electric-light Plant.—The city has granted franchise for lighting to F. W. Pettibone, and the latter will build an electric-light and power plant.

New Orleans—W. W. Carre & Co., 331 Carondelet street, will rebuild their burned dry-kiln.

New Orleans—Car Shops.—The New Orleans & Carrollton Railroad Co. is completing its \$75,000 car shops.

Shreveport—Broom Factory.—A. H. King of Dallas, Texas, will build a broom factory at Shreveport.

MARYLAND.

Baltimore—Wagon Works.—Charles A. Sefton has let contract to William H. Porter & Son for the erection of a two-story addition of brick, 78x75 feet, to his wagon factory; cost \$4000.

Baltimore—Telephone Factory.—John Waters has received contract for erection of an eight-story brick building to have elevators, steam heat, etc., and cost \$18,000, for the Maryland Telephone Manufacturing Co., whose plant was burned several months ago.

Baltimore—Chair Factory.—Hechinger Bros. & Co. will build an addition to their chair factory. It will be a five-story building, of brick, 60x40 feet.

Baltimore—Lumber Company.—The National Lumber Co. has been incorporated under the laws of Delaware, with capital stock of \$125,000, by R. H. La Porte, A. J. Bauernschmidt and H. Morrison, all of Baltimore.

Baltimore—Ice Factories.—The Hammond Ice Co. will be incorporated, with capital stock of \$500,000 to \$1,000,000, and build two ice factories of 250 tons daily capacity each. O. Hammond, Glenn Building, 12 St. Paul street, can be addressed.

Baltimore—Snuff Factory.—Arnd Bros. will build a two-story addition to their snuff factory 25x35 feet to cost \$800. Henry Smith & Sons are builders.

Baltimore—Evaporating.—The American Evaporating Co., capital \$2500, has been incorporated by Myron L. Myers, Thomas R. D. Myers, J. H. H. Martin, Andrew G. Steelman and T. Leigh Marriott.

Baltimore—Box Factory.—The Canton Box Co.'s factory, recently destroyed by fire, was

not its main plant; will build new factory 40x112 feet of 25,000 feet capacity every ten hours; main plant has 40,000 feet capacity.*

Beckleysville—Paper Mill.—The Beckley Paper Mills have resumed operations, after undergoing repairs and improvements; 100-horse-power boiler and 100-horse-power Corliss engine are among the improvements; George M. Folk, manager.

Cambridge—Telephone Company.—The Home Telephone Co. will be organized, with capital stock of \$4000.

Cambridge—Shirt Factory.—A. J. Foble has let contract to J. B. Brown for the erection of an addition to double his shirt factory; output is now 14,400 per week.

Cambridge—Yacht Works.—The Cambridge Yacht & Launch Co. has been organized to establish works for making yachts, gasoline launches, etc.; Thomas P. Lassell of St. Michaels, Md., general manager; G. M. Coffin, Cambridge, superintendent.

Cumberland—Tannery.—The Payne Spring Tanning Co. has been incorporated, with capital stock of \$20,000, by Lloyd Lowndes, Daniel Annan, Isaac Hirsch, Robert R. Henderson and others, to conduct the tannery of W. A. Foster.

Midland—Coal Mines.—Local capitalists have leased forty-five acres of coal land at Midland from the Consolidation Coal Co., and will organize a company for extensive developments. It is probable that W. L. Somerville of the Columbia Coal & Coke Co. at Clarksburg, W. Va., will be president.

Oakland—Spoke Factory.—W. W. Wood, industrial agent of the Baltimore & Ohio Railroad Co., Baltimore, Md., is endeavoring to locate a spoke factory at Oakland.

Ocean City—Water-works.—The city will issue bonds for construction of a system of water-works. Address "The Mayor."

Pocomoke City—Ice and Cold-storage Plant.—James S. Clogg is organizing a company to erect an ice and cold-storage plant of fifteen tons capacity daily.

Port Deposit—Reservoir.—The Jacob Tome Institute awarded contract to S. M. Neff of New York at \$21,000 for the erection of a reservoir, filters and pipe line to supply water for buildings.

MISSISSIPPI.

Columbus—Chair Factory.—E. S. Donnell, Leopold Leob and E. S. Williams have organized the Columbus Chair Co., and will establish chair factory; building has been purchased and is being remodeled to receive machinery.

Delta—Lumber Mills.—It is reported that C. M. Carrier of Buffalo, N. Y., will build large lumber mills at Delta.

Hattiesburg—Sewerage.—Surveys are being made for the proposed sewerage, and when completed contracts will be awarded. Address "The Mayor."

Scranton—Ice Factory.—It is reported that a 16-ton ice factory will be established. Names of interested parties will be announced later.

Vicksburg—Electric-light Plant.—The Southern Light & Power Co. has been organized, with capital stock of \$100,000, to build, own and control electric-light and power plants throughout the South. J. C. Schaefer of Chicago will probably be president; F. S. Mordant will be manager, and may be addressed at Vicksburg.

MISSOURI.

Alfa—Electric Plant, etc.—The Quaker Mills has been purchased by parties, who are installing an electric plant for operating mining machinery (probably for lead and zinc).

Carthage—Flour Mill.—F. M. McDaniels & Co. will erect a 500-barrel flour mill and a grain elevator of large capacity; building for a 1000-barrel mill will be erected, but machinery will only be purchased at present for a 500-barrel mill.

Chillicothe—Mining.—Chartered: The Hazelwood Mining & Milling Co., with capital stock of \$3680, by O. Stegall, J. W. McCormick, A. F. Chapin and others.

Joplin—Mining.—Chartered: The Crown Prince Mining Co., capital \$100,000, by Walter E. Johnson, Wm. C. Logan, J. H. Crippen and others.

Sedalia—Steam Heating, etc., Company.—Chartered: The Economy Steam Heating & Electric Co., with capital stock of \$50,000, by I. H. Babcock, C. R. Bishop, W. D. Hall and J. D. Walsh, all of New York, N. Y.

St. Joseph—Manufacturing.—The Sunlight Manufacturing & Supply Co., capital \$30,000, has been incorporated by John W. Gregory, Peter J. Carolus, M. M. Riggs and others.

St. Louis—Distilling.—Chartered: The Parker Distilling Co., with capital stock of \$30,000, by John C. Parker, Jr., and Geo. S. Johnson.

St. Louis—Motor Company.—Incorporated: The International Motor Co., capital \$60,000, by Geo. H. Laker, Ben R. Foster, Will Brahams and others.

St. Louis—Automobile Company.—C. R. Drummond, S. D. Scott and W. D. Pittman have incorporated the Scott Automobile Co. to manufacture automobiles; capital is \$30,000.

St. Louis—Automobile Company.—The Scott Automobile Co. has been chartered, with capital stock of \$30,000, by Charles R. Drummond, Sempie S. Scott and W. Daviss Pittman.

St. Louis—Chartered: The Art Reproduction Co., with capital stock of \$50,000, by R. M. Payne, A. Noble, C. H. Walton and others.

St. Louis—Laundry.—The Delmar Laundry Co. has been incorporated, with capital stock of \$4000, by Anthony Steinbold, George Glassbrenner and Robert Heister.

St. Louis—Telephone Company.—Chartered: The Queen City Telephone Co., with capital stock of \$50,000, by Charles G. C. Haddock, Fred A. Churchill, H. M. Dix and others.

NORTH CAROLINA.

Charlotte—Timber Lands.—Dr. E. L. P. Ector, representing a Missouri syndicate, has optioned 45,000 acres of timber lands in Western North Carolina.

Conetoe—Woodworking Factory and Ginnery.—The Conetoe Manufacturing Co. has recently established a plant for the manufacture of lumber, barrels, crate packages, etc.; will also operate a ginnery.

Elkin—Chair Factory.—E. I. Bailey and others have incorporated the Elkin Chair Co., with \$2500 capital, and will build factory.

Goldsboro—Table Factory.—The Borden Manufacturing Co. is erecting a table factory.

High Point—Chair Factory.—The Tomlinson Manufacturing Co. of Archdale, reported recently to remove to High Point and manufacture chairs, has been incorporated by C. F. Tomlinson, S. H. Tomlinson and W. T. Parker, with capital stock of \$20,000.

Littleton—Knitting Mill.—The knitting company lately reported organized has incorporated as the Littleton Hosiery Mill, capital stock \$20,000; S. Johnston, president; W. L. Powell, vice-president, and L. Vinson, secretary.

Lynn—Hosiery Mill.—S. N. Wilcox, F. S. Wilcox and E. C. Wilcox have incorporated the Tryon Hosiery Mill, with capital stock of \$50,000.

Marshall—Mercantile.—Chartered: The Wily Nelson Co., with capital stock of \$5000.

Parks—Flour Mill.—Sheeping Bros. will build flour mill, and have not awarded contract for machinery.

Raleigh—Cotton Mill.—The Raleigh Cotton Mills will erect an additional building.

Raleigh—Knitting Mill.—The Raleigh Hosiery Co. has let contract to Charles Pearson for erection of a new building for its established plant; structure to be 40x100 feet; present capacity will be increased in new building, and machinery for ladies' hose will be introduced; also a dyeing equipment will be installed.

Randleman—Knitting Mill.—The Randleman Hosiery Mills will enlarge its building and add new machinery.

Scotland Neck—Knitting Mills.—Messrs. Andrews, McDowell & Pittman, who recently purchased the Lockland Knitting Mills, will increase capacity one-third, installing new machinery; now have fifty knitters.

Shelby—Cotton Mill.—The Shelby Cotton Mills will increase its capacity by 4000 additional spindles.

Shelby—Electric-power Plant.—The Shelby Electric Light & Power Co., recently reported incorporated, will build an electric-light and power plant to contiguous towns; company has leased water-power three miles from Shelby now developed, and will later on install a steam plant for emergency use.

Statesville—Flour Mill.—The Statesville Flour Mills, lately reported as incorporated, is building flour and meal mill with capacity of 190 to 250 barrels of flour and 1500 to 1800 bushels of meal. Machinery has been contracted for.

Weldon—Saw-mill.—P. W. Squire and Henry Grant will install small saw-mill for firewood.

SOUTH CAROLINA.

Alken—Steam Laundry.—The Alken Laundry & Pressing Co. (established) will be in-

corporated, with capital stock of \$10,000, for the purpose of enlarging its plant.

Charleston—Yarn and Bag Factory.—The Royal Bag & Yarn Manufacturing Co., reported several months ago as incorporated, has organized, with Geo. A. Wagener, president; James M. Seignious, vice-president, and George Lunz, secretary and treasurer; company will manufacture yarn and convert it into seamless bags; plant will contain 5000 spindles and 125 bag looms; machinery reported purchased.

Georgetown—Telephone Company.—The Georgetown & North Island Telephone Co. has been chartered, with capital of \$1000, by J. B. Steele and A. E. Springs.

Lancaster—Electric-power Plant.—Ladshaw & Ladshaw of Spartanburg have closed contract at Lancaster with the Indianola Power Co. to develop the Landsford water-power on the Catawba river for the transmission of electric power to several towns for operating industries; 10,000 horsepower will be developed.

Septus—Flour Mill.—A. J. Smith will install a 60-barrel mill; contract awarded.

Spartanburg—Telephone Exchange.—A syndicate headed by Lewis W. Parker of Greer Depot, S. C., has purchased the Citizens' Telephone Exchange of Spartanburg for \$22,500, and will operate it.

Whitneys—Cotton Mill.—The Glen Lowrey Manufacturing Co., reported last June as organized for erection of a 15,000-spindle mill, will increase its capital stock from \$250,000 to \$500,000.

TENNESSEE.

Athens—Flour Mill.—J. K. Pickens will install new machinery in his mill; machinery not purchased.

Brushy Mountain—Coke Ovens.—Several hundred new coke ovens are to be constructed for the State prison; B. M. Nixon, chairman of prison board, Chattanooga.

Caneybranch—Flour Mill.—Stevens Bros. of Greenville, Tenn., have purchased a mill at Caneybranch, and will install rolls; contract for machinery not awarded.

Caneybranch—Flour Mill.—Major Wm. Lutz contemplates remodeling flour mill to the roller system, and has not awarded contract for machinery.

Chattanooga—Woodworking Factory.—J. Elwood Cox and C. B. Grimes will erect a factory for handles, shuttle blocks, etc.

Chattanooga—Mining Supplies Works.—The Nixon-Ratchet Mining Drill Co., manufacturer of mining drills and supplies, will double the capacity of its plant.

Chattanooga—Wire-fence Factory.—S. E. Glandon and J. W. Covey will establish a plant for manufacturing wire fencing and like specialties.

Chattanooga—Woodworking Factory.—Atlanta (Ga.) parties are investigating with a view of establishing a woodworking factory in Chattanooga. Address Chester Watkins at Chattanooga.

Chattanooga—Sewer-pipe Works.—Montague & Co. will expend \$2500 to overhaul and repair their fire-brick and sewer-pipe works.

Chattanooga—Paint Factory.—E. W. Scholze, U. G. Caulk, Robert Scholze, J. H. McLean and Geo. E. Scholze have incorporated the Tennessee Paint Manufacturing Co. to manufacture mortar and metallic paints; capital stock is \$6750.

Chestnee Mills—Flour Mills.—D. S. Parkinson has built a 50-barrel flour mill.

Clarksville—Bed-spring Factory.—B. Freeman & Son have established a bed-spring manufacturing plant at No. 80 Franklin street.

Coal Creek—Oil Tanks.—The Standard Oil Co. (main office, New York) is building four oil tanks of 5000 gallons capacity each.

Greenville—Road Improvements.—The county will vote on the issuance of \$150,000 of bonds for construction of new turnpikes. Address "County Clerk."

Knoxville—Furniture Factory.—C. S. Foster of the Quigley Furniture Co. of Whitesboro, N. Y., is corresponding with R. H. Hart relative to the establishment of a furniture factory in Knoxville.

Knoxville—Gas Plant.—The Knoxville Gas Light Co. is preparing to submit to the city a proposition for furnishing a large quantity of lights.

Shelbyville—Corn Mill.—J. F. Boyd is installing corn mill.

Tullahoma—Electric-light Plant.—The city council will pass an ordinance granting electric-lighting franchise to a private company. Address Geo. W. Davidson, mayor.

TEXAS.

Austin—Hat Company.—Chartered: The S. G. Davis Hat Co., with capital stock of

\$25,000, by W. B. Martin, W. C. McCord and J. H. Corley.

Bonham—Sewerage.—M. F. Kelly of Gainesville, Texas, has made a proposition to the city to construct a \$25,000 sewerage system.

Dallas—Cotton Mill.—J. E. Wiley (colored) states that architects are now planning his proposed cotton mill, recently reported; probably 5000 spindles will be the equipment; not determined yet whether steam or electricity will be the power used.

Galveston—Pier Improvements.—C. H. Mallory & Co. (main office on Burling Slip, New York) will expend about \$60,000 for pier and wharf improvements.

Houston—Irrigation Systems.—The Moore-Cortes Canal Co., capital \$30,000, has been organized, with W. C. Moore, president; D. K. Colburn, vice-president; G. A. Jahn (of New York), also vice-president; A. S. Vandervoort, secretary, and H. W. Cortes, treasurer. The company has purchased 15,000 acres of land in Matagorda county, also leased 5000 acres, and will construct canals for irrigation to promote rice cultivation.

Liberty—Ginnery.—S. S. Wickliff is rebuilding cotton gin lately burned.*

Orange—Lumber.—Incorporated: The Texas & Gulf Lumber Co., capital \$10,000, by H. R. Field of Orange, J. E. Meginn and F. Navarro of Mexico City, Mexico.

Sabine—Ferry Company.—Chartered: The Sabine Town Ferry Co., with capital stock of \$300, by J. H. Oliphant and others.

VIRGINIA.

Berkley—Cedar Works.—It is reported locally that the Brooklyn Cedar Works of Brooklyn, N. Y., have optioned site and will build an extensive factory at Berkley.

Hampton—Shirt Factory.—George Phillips, J. M. Willis, Henry L. Schmelz and George Schmelz are interested in the establishment of a large shirt factory.

Linville—Cheese Factory.—The Linville Cheese Co. has been incorporated.

Mineral City—Flour Mill.—Julian & Mack Quisenberry will build a flour and grist mill.*

Newport News—Water-works.—The Powhatan Water Co. has been incorporated, with capital stock of \$100,000 to \$300,000, and applied for franchise to construct system of water-works. Geo. A. Schmelz is president; L. P. Stearnes, vice-president; W. S. Upshur, secretary and treasurer.

Newport News—Metal-plating Works.—Robert L. Jenkins will establish metal-plating works.

Osage—Manufacturing.—The Osage Manufacturing Co. has been incorporated, with James R. Caton of Alexandria, president; John A. Lawrence of Baltimore, Md., secretary, and John Doherty of Alexandria, treasurer; to maintain and operate mills and manufacturing plants for the utilization of the products of lands and mines. The capital is \$25,000.

Radford.—K. T. Crawley states that his saw-mill of 6000 feet daily capacity, reported last week, will not be located in Radford, but at some other point.*

Richmond—Water Supply.—No action has been taken in reference to new water supply, nor is there likely to be any taken soon; Chas. E. Bolling, superintendent city water-works.

Woodstock—Water-works.—The city will hold an election November 15 to vote on \$20,000 in bonds for the construction of proposed water-works; J. H. Rodeffer, mayor.

WEST VIRGINIA.

Belva—Coal Mines.—The Bell Coal Co. has been incorporated by F. O. Havener of Parkersburg; W. E. Douglas of Jefferson, Ohio; E. A. Beckley and R. L. Walkley of New Haven, Conn., and others.

Bluefield—Land Company.—Incorporated: The Turkey Creek Land Co., to deal in mineral and timber lands, capital \$100,000, by F. L. Schand of Bramwell, Charles Culrass, R. E. Johnson and S. S. Cofer of Bluefield, and W. I. McClaren of Vivien.

Clarksburg—Pottery.—V. G. Highland, S. C. Denham, T. B. Haymaker, I. M. Kelly, Sr., and A. Bowen have incorporated the Empire Pottery & Brick Co., with a capital stock of \$100,000.

Clarksburg—Ice Factories.—The Consumers' Ice Co. and the Crystal Ice Co. have combined, and will operate their factories with increased capacity.

Grafton—Coal Mines.—Chartered: The Tygarts Valley Coal & Coke Co., capital \$1,000,000, for coal mining and coke manufacturing. Incorporators are Samuel W. Sharder, E. M. Sharder, John W. Miller, A. W. Burdett, all

of Grafton, W. Va., and John Sharder of East Liverpool, Ohio.

Guyandotte-Lumber Mills.—S. C. Williams and D. O. Webb of East Liverpool, Ohio; H. O. Thornburg, Georgia E. Thornburg of Guyandotte and S. M. Elkin of Huntington have incorporated the Thornburg Manufacturing Co., with a capital of \$25,000; purpose, to manufacture lumber, etc.

Longacre-Coal Mines.—The Longacre Colliery Co.'s improvements, mentioned last week, include the installation of fourteen more air compressors; contracts for all machinery have been placed.

Midkiff-Coal Mines.—The Cockill Coal Co. is opening new coal mines on the Guyandotte river.

Parkersburg-Gas and Oil Wells.—The Beecher Mining Co., capital \$500,000, has been incorporated to conduct a general oil and gas business, by C. B. Watson, S. S. Bushnell, A. S. Boyer, H. L. Stout and H. Malick.

Wheeling-Mining, etc.—Chartered: The Henry Oil & Mining Co., capital \$100,000, by W. J. Larkens, J. W. B. Robertson, Fred W. Brown, F. B. Serimsher, Leon Friedman and C. A. Mahon.

Wheeling-Steel Plant.—A dispatch from Pittsburgh, Pa., states that Seybold & Dickstol of Sheffield, England, have optioned site near Wheeling for the erection of a crucible steel works to cost \$3,000,000.

Wheeling-Clock Company.—Thomas B. Sweeney, Edwin M. Holliday, Louis F. Stifel, George Wise and others have incorporated the Poole Clock Co., with authorized capital of \$500,000.

BURNED.

Athens, Tenn.—Euclid Hotel, owned by Robt. Barnes; loss \$5000.

Blossom, Texas.—S. S. Godfrey's square and round-bale compress and gin; estimated loss \$9000.

Blue Mountain, Miss.—B. G. Lowery's laundry.

Dickersons, Md.—Standard Lime & Stone Co.'s stone-crushing plant; loss \$5000.

Holmesville, Miss.—Perzant & Kalgler's cotton gins.

Hurlock, Md.—Harper's Shirt Factory.

Petersburg, Va.—W. T. Reges' saw-mill; estimated loss \$1000.

Second Creek, W. Va.—Sliders & Mangus' saw and grist mill.

Silver Creek, Miss.—Thomas Simmons' cotton gin, grist mill and saw-mill.

Winchester, Tenn.—Winchester City Flouring Mills and electric-power plant of M. L. McDowell & Sons.

BUILDING NOTES.

Abbeville, S. C.—Warehouse.—The Abbeville Warehouse Co. has been incorporated, with a capital of \$10,000, to build a warehouse; John R. Blake, president, and F. E. Harrison, secretary.

Anniston, Ala.—Dwelling.—Frank McIntyre will build residence.

Augusta, Ga.—Dwellings.—John W. Dickey and Martin & Bush have purchased site and will erect ten seven-story dwellings to cost \$4000 each.

Austin, Texas.—Hospital.—The new Catholic hospital to be erected in Tobin Park will be of red brick, with stone trimmings, and cost \$50,000.

Baltimore, Md.—Churches.—W. M. MacCafferty is completing revised plans for the Homestead M. E. Church; plans call for stone building 42x70 feet. Gladfelter & Chambers will build addition to St. Mary's Protestant Episcopal Church, to be of stone, 60x90 feet, have steam heat and cost \$12,500.

Baltimore, Md.—Residence.—Douglas H. Thomas, Jr., is making plans for residence for William S. Blackford.

Birmingham, Ala.—Church.—The German Evangelical Church has awarded contract to Evans Bros. for erection of proposed building; cost \$4500; Rev. Mr. Bratz, pastor.

Birmingham, Ala.—Hotel.—M. T. Lewman & Co. of Louisville, Ky., have received contract at \$132,650 for erection of the six-story hotel at Birmingham of the Hotel Hillman Co., previously reported. This contract does not include lighting, heating, plumbing or machinery.

Birmingham, Ala.—City Hall.—The plans of D. A. Melnich have been accepted for the \$165,000 city hall lately reported to be erected.

Birmingham, Ala.—Church.—Evans Bros. have permit to build \$5000 church structure for German Evangelical congregation.

Birmingham, Ala.—Schools.—An outline has been prepared of the requirements for

the city's proposed three new school buildings recently reported. Architects are invited to submit plans by November 5. Address "Board of Education." The three buildings to cost not more than \$40,000, including heating and ventilating.

Blowing Rock, N. C.—Residence.—J. W. Golucke & Co. of Anniston, Ala., will prepare plans for erection of a \$6000 residence at Blowing Rock for W. W. Stringfellow of Anniston.

Bristol, Tenn.—Dwelling.—James B. Lyon is having plans made by Hoffmeister & Doriot for the erection of a \$5000 dwelling.

Charleston, S. C.—Hotel.—Andrew Simonds contemplates building hotel, as lately reported, and is now having plans for same made.

Chase City, Va.—Church.—W. H. Robertson has contract for erection of Methodist church, with seating capacity for 500.

Chattanooga, Tenn.—Cottages.—C. E. James and associates will build eighteen cottages of five rooms each.

Chester, S. C.—Hotel.—The Cliffs Investment Co. is preparing plans for its proposed 40-room hotel, to be lighted with electricity and have hot-water heat, power fans, plumbing, etc. Address L. T. Nichols, president.

Columbus, Ga.—Cottages.—The Eagle and Phoenix Mills has let contract to Butts, Cooper & Co. at about \$15,000 to build thirty operatives' cottages.

Covington, Va.—Residence.—W. J. Renner will build brick residence.

Durham, N. C.—Storage-house.—The Erwin Cotton Mills Co. has let contract to W. A. Wilkerson for erection of a 110x150-foot storage-house to cost nearly \$6000.

Elkins, W. Va.—Dwelling.—G. S. Hawk of Cumberland, Md., has contract to erect a \$5000 residence at Elkins for W. H. Bower.

Gastonia, N. C.—Depot.—The Southern Railway Co., Frank S. Gannon, general manager, Washington, D. C., will build new depot at Gastonia to be equipped with electric lights, etc.; old depot will be improved for freight warehouse.

Georgetown, Ky.—School.—A three-story brick school building, 90x125 feet, and to cost \$10,000, will be built at Cardome. Address "The Mayor."

Huntington, W. Va.—Car Barn.—The Ohio Valley Electric Railway Co. will erect a 60x100-foot car barn.

Huntsville, Ala.—Dwellings.—W. I. Wellman awarded contract to J. D. Dilworth & Son for erection of three dwellings.

Jackson, Miss.—Statehouse.—Architect Link of St. Louis, Mo., has everything in readiness and will advertise for bids until December 8 for the erection of the \$1,000,000 State capitol. Plans can be seen at office of "Capitol Commission" on Mississippi street.

Kansas City, Mo.—Business Building.—The Maxwell-McClure Notion Co. will erect a five-story brick business building to cost \$40,000.

Lancaster, S. C.—Cotton-mill Building.—The Lancaster Cotton Mills, previously reported as having placed orders for additional 50,000-spindle mill, has awarded contract to F. C. Thompson & Bro. of Columbia for erection of four-story building 360x125 feet.

Lexington, N. C.—Bank Building.—The National Bank of Lexington will remodel building for banking offices, installing vaults, etc.

Louisville, Ky.—Temple.—The Grand Lodge of Kentucky, F. and A. M., will build a temple to cost \$100,000; J. A. Ramsey, grand master.

New Decatur, Ala.—Temple, etc.—W. R. Smith, C. E. Hoy, F. Vassault and the Masonic Lodge have purchased sites and will erect buildings. The latter will build a temple, with probably an opera-house of modern design.

Newport News, Va.—Piers, etc.—Report states that J. H. Livingstone of Philadelphia, Pa., will build an 1800-foot pier, theater and other structures for a summer resort near Newport News, \$75,000 to be expended.

Oakland, Md.—Church.—Thomas C. Kennedy of Baltimore is making plans for new church for St. Mary's Roman Catholic congregation, to be of stone and cost \$15,000; Rev. James E. Connell, pastor.

Richmond, Va.—Clubhouse.—The Albemarle Club will erect a \$15,000 building.

Rock Hill, S. C.—Dormitory.—John Milady of Columbia has contract for erection of dormitory for State College at Rock Hill to cost \$40,000.

Salem, Va.—Orphanage.—The Baptist Orphanage of Virginia awarded contract to J. E. Parrish of Lynchburg for erection of its main building, three stories, to cost \$25,000.

St. Louis, Mo.—Hospital.—The Anti-Narcotin Sanitarium Co., capital stock \$30,000, has been rechartered, with capital stock of \$300,000, and is arranging to build a \$30,000 hospital in St. Louis. Dr. J. A. Hill of Greenville, Texas, may be addressed.

Sumter, S. C.—Stores Building.—John Milady of Columbia has contract for erection of stores building to cost \$13,000 at Sumter; to be two stories, of brick, stone and terra-cotta, with gravel roof, steam elevator, etc.

Valdosta, Ga.—Hotel.—T. G. Cranford, B. H. Roberts, C. R. J. Ashley and others have incorporated the Valdosta Hotel Co., with a capital stock of \$15,000, to build the hotel lately reported as contemplated.

Windsor, Ga.—Warehouse and Dwellings.—Dr. J. L. Kelly will build warehouse and operatives' dwellings.

RAILROAD CONSTRUCTION.

Railways.

Abingdon, Va.—The Virginia & Carolina Railway Co. has completed its line to a point seven miles from Abingdon, and is preparing to cross the Holston river. Grading is now in progress upon a section of the line between Damascus and Shady Valley. W. E. Mingea is president of the company.

Atlanta, Ga.—It is announced that a charter is about to be secured by the promoters of the electric line between Atlanta, Marietta and Lithia Springs, recently referred to in the Manufacturers' Record.

Carrollton, Ala.—It is reported that the Carrollton Short Line Railroad Co. has determined to build a further extension beyond Carrollton. John T. Cochran is president of the company.

Clarksburg, W. Va.—Surveys are being made for an extension of the West Virginia Short Line Railroad from Clarksburg to a connection with the West Virginia Central & Pittsburgh Railroad at Belington. The route is by the way of Elk creek and Tygarts valley.

Cordele, Ga.—It is reported that a company is being formed which will promote another line between Hawkinsville and Cordele, a distance of forty miles.

Cumberland, Md.—C. L. Bretz, general manager West Virginia Central & Pittsburgh Railway Co., informs the Manufacturers' Record that the Coal & Iron Railroad, which is being constructed to connect the West Virginia Central with the Chesapeake & Ohio, will probably be completed by May, 1901.

Ellisville, Miss.—The Williamsburg Lumber Co. and the Ellisville Lumber Co. are constructing portions of a railroad which will connect the towns mentioned. The section being built by the Ellisville Lumber Co. has been completed for a distance of about fifteen miles.

El Paso, Texas.—S. H. Buchanan of El Paso has secured the contract for changing the Arizona & New Mexico Railroad from narrow to standard gauge. This is the line which it is reported may be extended to El Paso when the present work is completed. H. J. Simmons at Clifton, Ariz., is chief engineer.

El Paso, Texas.—It is reported that the Pecos Valley & Northeastern Railroad Co. has finally decided upon its extension to El Paso, and that work will begin in a few weeks. J. J. Hagerman at Roswell, N. M., is president of the company.

Fairmont, W. Va.—Hon. J. N. Camden of Parkersburg, W. Va., has been elected president of the Fairmont & Clarksburg Electric Railway Co., recently organized to build between Clarksburg & Fairmont, a distance of twenty miles.

Fort Smith, Ark.—The Poteau Valley Railroad Co. has been incorporated to build a line from Fort Smith to a point in Oklahoma Territory. The company is capitalized at \$1,000,000, and it is stated that the line will be 100 miles in length.

Fosheeton, Ala.—A representative of R. A. Alger of Detroit, Mich., writes the Manufacturers' Record that it is expected to build several small branches to lumber property controlled by the Alger syndicate. The branches will connect with the Louisville & Nashville Railroad.

Hamilton, Texas.—A company has been organized with the view of building a branch from the St. Louis Southwestern from Gatesville to Hamilton. John R. Spurlin is president of the company. Surveys have been made of a route which would be thirty miles in length.

Houston, Texas.—George S. Bruce has been appointed engineer of the Union Central Railroad Co., which proposes building a line between Houston and Paris, Texas.

Preliminary surveys have already been made to cover a portion of the distance.

Huntsville, Ala.—William H. Burritt is one of the promoters of the proposed electric road between Huntsville and Whitesburg, a distance of fifteen miles.

Jackson, Miss.—The Jackson, Columbus & Northeastern Railroad Co. has decided to begin surveys immediately for the portion of the line between Jackson and Columbus, Miss. Hon. Newman Cayce at Columbus is president of the company.

Jacksonville, Fla.—It is stated that work is now in progress upon two extensions of the railroad being built by the Drew Lumber Co. of Jacksonville. The extensions are being constructed in Lafayette county. Frank Drew at Jacksonville may be addressed.

Kansas City, Mo.—It is reported that the Atchison, Topeka & Santa Fe Railroad Co. has decided to expend about \$100,000 in improving its roadbed between Kansas City and Emporia, Kans. It is stated that a considerable mileage of new track will be built. W. B. Storey at Topeka, Kans., is resident engineer.

Little Rock, Ark.—Mr. J. A. Woodson, president of the Arkansas Southwestern Railway Co., writes the Manufacturers' Record that it is expected to build the extension to Murfreesboro in the near future. The extension will be about ten miles in length, and surveys have been completed.

Little Rock, Ark.—It is reported that the Little Rock Northern Railroad Co. has nearly completed surveys for its line, which is being promoted between Little Rock and Springfield, Mo., through the mineral belt in that section of the country. It is stated that about 130 miles of line have been surveyed thus far. S. E. Reaugh is engineer in charge.

Marion, Va.—It is stated that surveys have recently been completed for a further extension of the Marion & Rye Valley Railroad, which, if built, will complete it to Rye Valley, a distance of twenty miles. T. L. Woodruff at Roanoke, Va., may be addressed.

Nashville, Tenn.—It is announced that the Nashville, Chattanooga & St. Louis Railroad Co. has bought 3000 tons of steel rails, which will be utilized in relaying portions of its track. J. W. Inomas, Jr., at Nashville is general manager of the company.

Oreonto, Ala.—The extension of the Louisville & Nashville Railroad from Oreonto to the mines of the Underwood Coal Co. is practically completed. The road is to be termed the Oreonto & Attalla Railroad.

Owingsville, Ky.—The business men of Owingsville have taken up the matter of the proposed railroad to connect with the Chesapeake & Ohio. It is stated that the St. Louis Construction Co. is negotiating with them.

Palo Pinto, Texas.—The parties agitating the railroad from Palo Pinto are now negotiating with the San Antonio, Llano & Northern Railway Co. to build to the town referred to. The length of the extension would be twenty-five miles. It is reported that a bonus of \$20,000 has been offered the railroad company. Among those interested is W. H. Penix.

Parkersburg, W. Va.—The company which is promoting the electric line between Parkersburg and Marietta, Ohio, has elected H. C. Henderson, president; Max P. Goodwin, vice-president; Thomas T. Barrett, secretary, and C. M. Mayhew, treasurer. The president and vice-president are of Cleveland, Ohio.

Shelbyville, Tenn.—The Shelbyville Commercial Club is agitating the construction of a railroad between Shelbyville and Florence, Ala., which will terminate at Nashville or connect with some line entering that city.

Slidell, La.—It is reported that the Salem Brick & Lumber Co. has begun work upon a railroad line between Bayou Liberty and Bayou LaComb. The road will be used for logging purposes.

Thomasville, Ga.—The proposed extension of the Tifton, Thomasville & Gulf Railroad, now under consideration, will be thirty-eight miles in length. No decision has been reached as yet as to its construction. H. M. Atkinson of Atlanta is president of the company.

Washington, D. C.—It is stated that the Washington & Gettysburg Railroad Co. has decided to begin construction of its line between these places in the near future. This company is composed of Washington parties. The president is George H. Harries; vice-president, S. W. Woodward, and secretary and treasurer, B. H. Warner. The estimated distance is seventy-two miles.

Wheeling, W. Va.—A report is current

that a company is being formed to build a railroad from a point on Decker's creek through coal-mining territory to either Wheeling or Morgantown. The estimated distance is sixty-five miles.

Wheeling, W. Va.—The latest report concerning the Pittsburgh, Connellsville & Wheeling Railroad is to the effect that work is to begin immediately upon this line near Moundsville. The Ferguson Construction Co. will begin the work. Edgar F. Holmes at Moundsville is general manager of the railroad company.

Wilmington, N. C.—A correspondent of the Manufacturers' Record writes that the prospects for building the railroad between Southport and Wilmington are excellent. The line is being promoted by the Southport, Wilmington & Western Railroad Co., of which Charles N. Wire, 203 Walnut Place, Philadelphia, is vice-president.

Street Railways.

Birmingham, Ala.—The Birmingham Railway, Light & Power Co., which represents the consolidation of the Birmingham Railway & Electric Co., the Birmingham Traction Co. and the Birmingham, Powderly & Bessemer Railway, it is announced will expend about \$1,750,000 in various improvements to the system.

Chattanooga, Tenn.—The necessary material for the extension of the Chattanooga Electric Railroad to Sherman Heights, in the suburbs, has been received, and it is announced that construction work is to begin upon this line immediately.

Florence, Ala.—It is reported that E. J. O'Brien is interested in the proposed electric street railway, which will extend from the railway station to the center of the town.

Jackson, Miss.—A correspondent of the Manufacturers' Record writes that the Jackson Light, Railroad & Power Co. has decided to build an extension about one mile long to its trolley system.

New Orleans, La.—The St. Charles Street Railroad Co. has determined to build extensions to its trolley system, which, it is stated, will aggregate eleven miles.

Newport News, Va.—The Citizens' Railway & Power Co. of Newport News has secured authority to build its trolley line in the city and suburbs.

Selma, Ala.—It is announced that work is to begin immediately upon the construction of the electric railroad in Selma, and that it may be extended to Summerfield, Ala., a distance of nine miles. A. Hall is superintendent.

Machinery, Proposals and Supplies Wanted.

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The MANUFACTURERS' RECORD has received during the week the following particulars as to machinery that is wanted.

Belting.—See "Ginnery."

Boiler and Engine.—A. H. Graf, Gold Hill, N. C., wants 25-horse-power portable engine and boiler on wheels.

Boilers.—Wisconsin Machinery Co., 125 W. Water street, Milwaukee, Wis., is in the market for 800 horse-power of water-tube boilers, second-hand.

Brick-works Equipment.—Morrison-Trammell Brick Co., Rome, Ga., wants to purchase 100 second-hand double or single decker dryer cars.

Corn Mill.—H. Priebe, Oxford, Ala., is in the market for cleaning machinery for wheat and a small corn cleaner.

Corn Mill.—Geo. T. Wharton, Cadiz, Ky., wants a machine for crushing cobs and corn, to be operated by horse-power or engine.

Electrical.—See "Elevator."

Electric-light Plant.—Simmons & Hollowell Co., New Berne, N. C., wants estimates on cost of dynamos and lamps for lighting; want dynamo run by either water motor or kerosene engine; also wants addresses of manufacturers of electric signs.

Electric Signs.—See "Electric-light Plant."

Elevator.—Warner Moore, Richmond, Va., is in the market for a freight elevator with

capacity of 2000 pounds, speed forty feet per minute, side of car 6x6, driven by five-horse-power electric motor; height fifty feet; want the electric motor directly connected; have reverse gear by reversing speed of motor.

Engine.—See "Saw-mill."

Engine.—See "Flour-mill Machinery."

Engine.—Canton Box Co., 2515 Boston street, Baltimore, Md., will probably want new 120-horse-power engine.

Engine.—W. E. Vance, Montezuma (Ga.) Harness Co., will need a gasoline engine.

Fire-department Equipment.—City of Kingston, N. C., is in the market for chemical fire engine, hose reel and set of ladders. Address Geo. B. Webb, mayor.

Flour Mill.—See "Corn Mill."

Flour-mill Machinery.—Combs, Manker & Daniel, West Liberty, Ky., will buy flour-mill machinery.

Flour-mill Machinery.—The Adams Milling Co., Bower's Mills, Mo., is in the market for flour-mill machinery.

Flour-mill Machinery.—Julian & Mack Quisenberry, Mineral City, Va., want full outfit of machinery for flour and grist mill and engine to operate same.

Flour-mill Machinery.—J. A. Wood, West Louisville, Ky., will be in the market for full outfit of flour-mill machinery, including steam-power, wheat and corn machinery.

Gasoline Engine.—See "Engine."

Ginnery.—S. S. Wickliff, Liberty, Texas, will contract for gin, elevator, press, shafting, pulleys and belting.

Hoisting Elevator.—A. S. Kenny, P. G., U. S. N., Navy Department, Washington, D. C., will open proposals October 30 for furnishing at Pensacola (Fla.) navy-yard one hoisting elevator complete. Blank proposal forms may be had on application.

Ice Factory.—C. J. Wilson, Homeland, Fla., wants complete equipment for a six-ton ice factory.

Laundry.—S. C. Starr, Lake City, Fla., wants price on small engine and boiler and on steam-laundry equipment, new or second-hand. Proposals must name lowest price and full information in first letter.

Machine Tools.—Wanted—Universal grinding machine, No. 2 (Brown & Sharpe's preferred), new or second-hand. Address Box 497, Woodbury, N. J.

Mattress Machinery.—W. G. Mebane, Greensboro, N. C., wants addresses of parties selling shuck hacklers, mattress machinery and supplies.

Papier-Mache Machinery.—See "Wood-working Machinery."

Paper-working Machinery.—W. H. Hammett, Piedmont, S. C., wants addresses of manufacturers of machinery for papier mache or compressed paper.

Printing Press.—Pratt Bag Co., Anniston, Ala., requires a foot-power printing press 7x9 or 10x12 inches, new or second-hand.

Pulleys and Shafting.—See "Ginnery."

Quarrying Machinery.—John Fair, manufacturers' agent, 211 Twenty-fifth street, Newport News, Va., wants heavy machinery for granite quarry, including engine, crusher, steam drill, carriers, screens, etc.

Railway Equipment.—Allen Bros. & Wadley Co., Limited, Allentown, La., are in the market for a light Shea locomotive.

Railway Equipment.—Jas. A. Bryan, president A. & N. C. R. R., New Berne, N. C., wants fifty box cars, standard size, 50,000 pounds capacity each.

Rattan Cane.—J. C. Gorman, care of Atlantic Transport Co., 403 Water street, Baltimore, Md., wants addresses of makers of and dealers in rattan cane for baskets and chairs.

Saw-mill.—White Furniture Co., Mebane, N. C., wants to buy a light portable saw-mill.

Saw-mill.—K. T. Crawley, Radford, Va., will buy saw-mill and engine.

Saws.—J. W. Miner, Ronda, N. C., wants quotations on foot and hand-power comb saws (Seneca Falls preferred).

Sewers.—H. B. F. Macfarland et al., commissioners District of Columbia, Washington, D. C., will receive sealed proposals until November 24 for construction of extension of the Boundary sewer. Specifications and blank forms of proposals may be obtained at office. Usual rights reserved.

Vehicle Machinery.—Chas. A. Sefton, Monument and Eden streets, Baltimore, Md., invites catalogues of vehicle-works machinery.

Veneering.—W. F. Deal, Emporia, Va., wants information concerning gluing together two or more sheets of veneering.

Water-works.—Capt. T. B. Lamoreaux, 807 Equitable Building, Baltimore, Md., will open proposals November 8 for furnishing machinery for and constructing water-sup-

ply system at Fort Howard, Md. Equipment to include pump and boiler-house, pumping machinery, 60,000-gallon steel tank, tristle and distributing system. Circulars to bidder and all information furnished on application.

Woodworking Machinery.—Canton Box Co., 2515 Boston street, Baltimore, Md., will probably want box machinery.

Woodworking Machinery.—Smithville Telephone Co., Smithville, Tenn., wants price on machinery for manufacturing insulator pins from wood.

TRADE NOTES.

Mechanical Draft.—In a recent paper on mechanical draft read before the New England Cotton Manufacturers' Association Walter B. Snow states that from a comparison of a considerable number of plants it appears that, under ordinary conditions, "a single forced-draft fan, with direct-connected engine and short stack, can be installed for less than 20 per cent. of the cost of a brick chimney; a single induced-draft fan, with direct-connected engine and short stack, will cost less than 30 per cent. of a chimney, and that a duplex induced-draft apparatus, consisting of two fans, with direct-connected engines, inlet and outlet connections and short stack, will cost but little more than 40 per cent. of a chimney. The latter arrangement is only employed where, as in the case of an electric-lighting plant, it is the practice to introduce relay units."

Manufacturing Plant Offered.—In active business life it is frequently the case that owners of some important manufacturing plant will develop interests in directions that prevent the attention being given to their original establishment that is necessary. When this occurs the opportunity arises for other parties to purchase interest or absolute ownership and develop the business already on a firm footing. Such an opportunity is that now offered by a certain Southern plant. This plant consists of fine wood mill, foundry and machine shop, all fully equipped, and conducting a profitable business. The plant is adapted for any kind of manufacturing in wood or iron, or both. All the requisites for economical operation—cheap labor, raw material, fuel, water, etc.—are at hand. Interested parties desirous of having further particulars regarding terms for a one-third interest may address "Factory," care of Manufacturers' Record.

Everything Needed by Foundries.—Foundries are among the important industries now participating in the activity prevailing in the industrial world. The furnishing of the supplies for these foundries is an important function of some extensive manufacturing plants. Foundry equipments, facings and general supplies are largely supplied to consumers by the S. Obermayer Co. of Cincinnati, claiming to be the largest house of its character in the world. This representative establishment has been in existence more than thirty years, and it fills all orders with a promptness that gratifies patrons. The company manufactures and deals in "everything you need in your foundry," offering only the highest-grade product at prices making it an object of interest for all buyers to obtain estimates before placing orders elsewhere. The company's business is exceedingly good at present, notwithstanding the "slump" in the iron market. The Obermayer goods are not only favorably known and widely used in America, but also in foreign sections; the export business is very heavy. Purchasers for foundries are advised to correspond with the S. Obermayer Co. when considering the purchase of anything in the foundry line.

Reduction Machinery for Any Material.—The operations of crushing, grinding, pulverizing and drying enter into the conduct of a large number of industrial establishments. Machinery for the various purposes indicated has been devised by more than one inventor, and varying success has followed the efforts of each. Thirty-two years' experience in the construction of the apparatus mentioned has enabled the J. R. Alsing Co. of 75 Guernsey street, Brooklyn, N. Y., to offer users a most satisfactory line of machines. This company's product is used extensively in this country and in foreign lands. Certain improvements in its machinery has lately enabled the company to transact a considerable business with England and Germany. Its latest shipments included a mill for pulverizing gelatine and glue, shipped to Germany, and a mill for pulverizing raw bones, shipped to London. It frequently happens that a material is to be ground for which there is no machine adapted; in such an instance the Alsing Company only need know the exact nature

of the material and perhaps how it acts with present method of reduction in order to design and construct an apparatus that will bring about the desired results. Purchasers in this department of mechanical apparatus are therefore invited to consult the Alsing Company before contracting for machinery desired.

TRADE LITERATURE.

Wire-Rope Discounts.—The John A. Roebbing's Sons Co. of Jersey City, N. J., has issued a list of discounts on wire rope, applying to price-lists of July 1, 1899.

Flexible Metallic Tubing.—Leading American firms have used and recommend others to use the flexible metallic tubing, for which Messrs. Walter L. Flower & Co. of 1611 Chemical Building, St. Louis, are the agents. Literature telling fully of the merits and adaptability of the tubing may be obtained on application.

Protection from Sulphur Fumes.—A folder issued by the Joseph Dixon Crucible Co. of Jersey City, N. J., tells of the protection of steel viaducts, bridges and buildings exposed to sulphur fumes of railroad engines. This should be of especial interest to railroad superintendents and master-mechanics and others. The protection mentioned is obtained by the use of "Dixon's Silica-Graphite Paint."

Wire-Rope Tramway.—The advantages of aerial transportation are very generally understood, more especially by those who have adopted this method. In mining sections particularly are equipments for aerial transportation met with. One of the most widely-used equipments is that manufactured after the patents of C. T. Finlayson of Denver, and known as the "Finlayson Wire-Rope Tramway." Economy and practicability both for freight and passengers are leading characteristics of this equipment. The A. Leschen & Sons Rope Co. of 920 North Main street, St. Louis, owns and manufactures the Finlayson equipments, and has issued an illustrated booklet illustrating and describing the system in detail. Interested parties are invited to send for booklet.

As Others Know Us—About Roofing.—The subject of roofing material has been given much attention by builders and building owners. The demand for improved roofings has been readily met by representative manufacturers, and roofings possessing certain admirable qualities have come into extensive use. The "Asbestos Roofing" made by the H. W. Johns Manufacturing Co. of 100 William street, New York, is one of the most successful of these improved roofings. This roofing is fireproof and non-conducting, is durable, reasonably priced, and its application is simple. Many leading mills and other buildings have used the Johns roofing and testified strongly to its merits. A booklet entitled "As Others See Us" has been issued to present a number of the testimonial letters received.

Heavy Hoisting Machinery.—The multitude of manufacturing and other industrial enterprises find extensive use in their plants for hoisting machinery. Modern invention has perfected such equipments to that point where the highest efficiency and desirable economy are fully attained. Some prominent companies have devoted their attention to the construction of hoisting machinery. Among them is the M. C. Bullock Manufacturing Co. of Chicago. This corporation has just issued a new catalogue (No. 42) of its heavy hoisting machinery. The efficient devices and the perfection of manufacture of Bullock hoisting apparatus has earned for it an enviable reputation in the industrial world. The catalogue's illustrations and description amply describe these points for the benefit of purchasers. Catalogue on request.

Rock Drills and Drill Mountings.—Increased operations in mining and construction work are constantly making demands for improvements in drilling equipment. Both compressed air and steam is used as power for such drills, and manufacturers in this special department of mechanical apparatus have devised and supplied efficient products. The "Eureka Drill" is offered to the consumer as an advance over other drills. It has been tested thoroughly and found to possess elements of economy, efficiency and durability of the most remarkable kind. The John M. Rogers Boat, Gauge and Drill Works of Gloucester, N. J., manufactures this drill, and will send book "Rock Drills and Drill Mountings," to those requesting it. The Rogers Company manufactures an extensive line of mining, quarrying and tunnelling machinery.

FINANCIAL NEWS.

Increase in Bank Clearings.

The reports from the various clearing-house cities of the South for the week ending October 13 show another large increase as compared with other sections of the country. The total gain, compared with the corresponding week in 1899, was 20½ per cent. The reports from the other clearing-house groups were as follows: Middle States, 19 per cent. increase; New England States, 2.7 increase; Middle Western States, .7 increase; Pacific States, 3.1 increase; other Western States, 3.2 increase. The average of the clearing-house cities taken as a whole showed a decrease of 12.7. It will be noted that in the South the increase was 17 per cent. greater than in any other section of the country.

New Corporations.

R. J. Thurmond is president of the bank recently organized at Elkin, N. C.

The Guilford Investment Co. has been formed at High Point, N. C., by W. A. Blair and others.

It is reported that E. A. Vinson of Georgianna, Ala., is interested in a new bank at Evergreen, Ala.

The question of organizing another bank at Bedford City, Va., is being discussed by L. R. Gills and others of that city.

The First National Bank of Grand Saline, Texas, has been organized by J. E. Persons and others, with \$25,000 capital stock.

The Cotton Exchange Bank has been organized at Kennett, Mo., with \$16,000 capital stock, by J. B. Blakemore and others.

P. L. McPherson and others are interested in the bank being organized at Gueydan, La. It will be capitalized at \$16,000.

The Bocas Investment Co. has been formed at New Orleans, La., with \$25,000 capital stock, by Charles Weinberger and others.

R. F. Wood and others have formed a national bank at Whitney, Texas, with \$25,000 capital stock. It will be opened for business about November 1.

E. M. Armfield has been elected president, and R. L. Burkhead, vice-president, of the national bank recently formed at Lexington, N. C., with \$25,000 capital stock.

The bank at Clinton, N. C., which has recently been organized with \$15,000 capital stock, has elected L. A. Bethune, president, and W. H. McDonald, vice-president.

The Marlin National Bank is the title of the institution recently organized at Marlin, Texas. R. A. Reed is president; H. T. Rogers, vice-president, and D. H. Johnson, cashier.

G. Smith Norris and others of Bel Air, Md., have formed the Savings Bank of Harford County. Walter W. Preston has been elected president, and D. J. Shannahan, vice-president.

It is stated that officials of the Colonial Investment Association of Baltimore are interested in the formation of a bank with \$100,000 capital stock and a surplus of \$20,000. William C. Page is president of the investment association.

New Securities.

Hon. G. M. Franklin, mayor of Lake Providence, La., may be addressed relative to an issue of \$17,500 in bonds for improvements.

It is stated that an issue of \$7,500 in 4 per cent. bonds of De Leon, Texas, will soon be placed upon the market. The mayor may be addressed.

The school district of Honey Grove, Texas, has been authorized to issue \$5000 in bonds. The school board may be addressed at the town mentioned.

The Wetzel County Bank of New Martinsville, W. Va., has purchased the issue of \$12,000 in 6 per cent. bonds of St. Mary's, W. Va., paying \$110,041.

Bids will be received until November 5 for the issue of \$12,000 in 6 per cent. bonds offered by the town of Port Gibson, Miss. The mayor may be addressed.

Tyler county, Texas, will probably place on the market an issue of \$23,500 in refunding bonds. The board of commissioners may be addressed at Woodville, Texas.

The State authorities have approved an issue of \$6000 of refunding bonds of Refugio county, Texas. The county commissioners may be addressed at Refugio, Texas.

An issue of \$2500 in improvement bonds of the school district of Reynolds, Ga., will soon be placed upon the market. The school board may be addressed at Reynolds, Ga.

The school district of Crowley, La., has voted in favor of issuing \$20,000 in 5 per cent. bonds. No date for the sale has been arranged as yet. The school board may be addressed at Crowley.

The question of issuing \$250,000 in bonds for the purpose of purchasing a park, also \$250,000 for extending the sewer system, is being agitated at Louisville, Ky. The Commercial Club is interested in the matter.

The drainage board of Iberia and St. Mary's parishes, Louisiana, has voted in favor of issuing \$100,000 in 5 per cent. bonds, the proceeds of which are to be utilized for drainage purposes. The board of commissioners may be addressed at Jeanerette, La.

The Ensley Southern Railroad Co. has given a mortgage to secure an issue of \$900,000 in 4½ per cent. bonds. The mortgage is on the railroad under construction between Ensley and Parrish, Ala. The Texas & New Orleans Railroad Co. has been authorized to issue \$1,471,000 in bonds on the extensions which it is now constructing in Texas. The Wichita Falls Railway Co. has also been authorized to issue \$250,000 in bonds upon its line in the same State.

Financial Notes.

The report of the bank examiner of Georgia shows no failures during the past year. The total amount on deposit in the banks of the State increased \$1,824,000, and the loans \$2,305,000. During the year fifteen banks were organized in the State.

The Bank of Wayne of Goldsboro, N. C., has issued a booklet descriptive of the city and vicinity, which is a decided departure in the line of advertising. It is beautifully illustrated with attractive views of the growth and prosperity of Goldsboro as shown by its industries, and instead of the usual general descriptive matter, most of the text is devoted to statistics showing what has been accomplished from an industrial and other standpoints. The back of the cover contains a map which shows the distance by rail from Goldsboro to the principal Northern and Southern cities.

SOUTHERN COTTON-MILL STOCKS.

Quotations Furnished by Hugh MacRae & Co., Wilmington, N. C., for Week Ending October 23.

| | Bid. | Asked. |
|-------------------------------------|------|--------|
| Abbeville Cotton Mills (S. C.)..... | 95 | 100 |
| Alken Mfg. Co. (S. C.)..... | 95 | 98 |
| American Spinning Co. (S. C.)..... | 98 | 101 |
| Anderson Cotton Mills (S. C.)..... | 130 | 150 |
| Arcade Cotton Mills (S. C.)..... | 100 | 101½ |
| Arkwright Mills (S. C.)..... | 122 | 125 |
| Augusta Factory (Ga.)..... | 82½ | 83 |
| Avondale Mills (Ala.)..... | 80 | 84 |
| Belton Mills (S. C.)..... | 104 | 105½ |

| | | |
|--|------|------|
| Bennettsville Mfg. Co. (S. C.)..... | 105 | 110 |
| Cannon Mfg. Co. (N. C.)..... | 105 | 100 |
| Cabarrus Cotton Mills (N. C.)..... | 140 | 150 |
| Clifton Mfg. Co. (S. C.)..... | 175 | 180 |
| Courtenay Mfg. Co. (S. C.)..... | 118 | 120 |
| Darlington Mfg. Co. (S. C.)..... | 95 | 97½ |
| Delgado Mills (N. C.)..... | 100 | 102 |
| Eagle & Phenix Mills (Ga.)..... | 104 | 107 |
| Edna Cotton Mills (N. C.)..... | 120 | 125 |
| Enoree Mfg. Co. (S. C.)..... | 120 | 122 |
| Enterprise Mfg. Co. (Ga.)..... | 100 | 103 |
| F. W. Poe Mfg. Co. (S. C.)..... | 118 | 120 |
| Gaffney Mfg. Co. (S. C.)..... | 120 | 125 |
| Granby Mills (S. C.)..... | 100 | 102 |
| Grandy Mills (S. C.) 1st Pfd..... | 104½ | 106 |
| Granville Mfg. Co. (S. C.)..... | 160 | 167 |
| Greenville Cotton Mills (S. C.)..... | 102½ | 103½ |
| Grendel Mills (S. C.)..... | 101 | 102½ |
| Henderson Cotton Mills (N. C.)..... | 120 | 125 |
| Henrietta Mills (N. C.)..... | 200 | 210 |
| John P. King Mfg. Co. (Ga.)..... | 100 | 103 |
| Langley Mfg. Co. (S. C.)..... | 117 | 120 |
| Laurens Cotton Mills (S. C.)..... | 135 | 145 |
| Lockhart Mills (S. C.)..... | 108 | 112 |
| Louise Mills (N. C.)..... | 120 | 125 |
| Lynchburg Cotton Mills (Va.)..... | 125 | 150 |
| Lynchburg Cotton Mills (Va.) Pfd..... | 145 | 150 |
| Manchester Cotton Mills (S. C.)..... | 110 | 115 |
| Mayo Mills (N. C.)..... | 125 | 130 |
| McColl Mfg. Co. (S. C.)..... | 120 | 123 |
| Modena Cotton Mills (N. C.)..... | 138 | 145 |
| Newberry Cotton Mills (S. C.)..... | 115 | 117½ |
| Orr Mfg. Co. (S. C.)..... | 103½ | 105½ |
| Odell Mfg. Co. (N. C.)..... | 110 | 113½ |
| Pacolet Mfg. Co. (S. C.)..... | 250 | 275 |
| Pelzer Mfg. Co. (S. C.)..... | 180 | 183 |
| Piedmont Mfg. Co. (S. C.)..... | 175½ | 178½ |
| Raleigh Cotton Mills (N. C.)..... | 120 | 125 |
| Richland Cotton Mills (S. C.)..... | 99½ | 101 |
| Richland Cotton Mills (S. C.) Pfd..... | 100 | 105 |
| Roanoke Mills (N. C.)..... | 105 | 110 |
| Sibley Mfg. Co. (Ga.)..... | 85 | 88 |
| Spartan Mills (N. C.)..... | 94 | 97 |
| Spartan Mills (N. C.) Pfd..... | 125 | 135 |
| Trian Mfg. Co. (Ga.)..... | 125 | 150 |
| Tucuman Mills Co. (S. C.)..... | 125 | 132½ |
| Union Cotton Mills (S. C.)..... | 134 | 138 |
| Union Cotton Mills (S. C.) Pfd..... | 102 | 103½ |
| Victor Mfg. Co. (S. C.)..... | 109 | 110 |
| Victor Cotton Mills (N. C.)..... | 70 | 75 |
| Warren Mfg. Co. (S. C.)..... | 85 | 90 |
| Warren Mfg. Co. (S. C.) Pfd..... | 101 | 105 |
| Wilmington Cot. Mills (N. C.) Pfd..... | 110 | 115 |
| Wiscasset Mills (N. C.)..... | 120 | 126 |
| Whitney Mfg. Co. (S. C.)..... | 120 | 125 |

Literary Notes.

Johnson's Physical Culture. By B. F. Johnson. Publishers, The B. F. Johnson Publishing Co., Richmond, Va. Price twenty-five cents.

Mens sana in corpore sano was the sentiment which, practically applied, produced the models for classic masterpieces in sculpture. In modern times there has even been too much stress laid upon mental development at the expense of the physical body. A revolution, however, is under way, and the best conception of education today is that which demands well-balanced training of the mind, the body and the heart. Advocates of the new method will find valuable assistance in this little work by Mr. Johnson. He has embodied in simple, attractive language, in the form of directions for exercises of children, the results of his experiences with his own children. These exercises may be had at home or at school, and they are fully illustrated with excellent half-tone engravings. They deal with the proper use of the hands, the arms and fingers, wrists, legs and body joints, with food and drink, with the care of the hair, eyes, ears, teeth and feet, and in general with the simple plans for insuring a proper home for a pure mind and a pure heart. The concluding page is a word to teacher, parent and child, and will be found exceedingly helpful.

Famous Gold Nuggets of the World. By Thomas Jefferson Hurley.

Mr. Hurley, who is a member of the American Institute of Mining Engineers and American Geographical Society, and who has shared the companionship, the hardship, the joys and the disappointment of the mineral prospector, has compiled in this little volume a mass of interesting facts about the search for gold contemporaneous with the written history of mankind, with special reference to the famous nuggets of the world, ranging in weight from one of 126 pounds found in Australia to those the size of beans or gravel stones. The search for the history of these nuggets carries the reader through the gold-mining fields of many countries, and one cannot fail to be surprised at the importance in this connection of the fields of the Southern States. Statistics of the gold and silver production of the world for three or four years

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are presented, and a concluding chapter deals in entertaining style with the disappearance of gold from circulation, particularly in India and China.

The Lockland Knitting Mills of Scotland Neck, N. C., now operating fifty knitters, will enlarge one-third. The machinery is said to have been practically contracted for.

Between January 1 and October 15 of this year 18,184 cases of cigars, containing 90,920,000 cigars, were shipped from Tampa, Fla.